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# AIR FORCE

THE OFFICIAL SERVICE JOURNAL OF [illegible] AIR FORCES ☆ MARCH–APRIL 1946

BATAAN TO MIAMI—PAGE 24

*". . . the 10,000-mile bomber is here"*

It has become my good fortune to assume the command, recently relinquished by General Arnold, of the AAF. Each one of you may feel as do I, a justifiable glow of pride in the history-making accomplishments of the organization of which we are members.

The future of the Army Air Forces is in our hands. Let us work together with utmost zeal and energy to the end that the history we make from day to day shall brighten the pages of the annals of the armed forces of the nation.

Carl Spaatz

Commanding General
Army Air Forces

# Rendezvous

**Sad Story**

Dear Editor:

I'm a liberated prisoner of war, released Aug. 20, 1945 by the Russians at Mukden, Manchuria. I was captured on Bataan, Philippine Islands 9 April 1942, by the Japanese.

When I arrived at Clark Field, P. I., I was a member of the 93rd Bomb. Sqdn., 19th Bomb. Group. On 12 Feb. 1942, I was put on Detached Service with the 5th Interceptor Command Combat Unit.

Now my question is: Are the men of the Air Force who were in the Philippines before the surrender to the Japanese and who were on Detached Service with the Infantry entitled to the Infantry Combat Badge and the additional $10 a month? If we aren't why aren't we? We think we made damned good Infantrymen considering everything. We just hope now that we will get something for it.

One more question. Are the men who were captured in April and May 1942 by the Japanese entitled to wear the Philippine Liberation ribbon? Most of us were either in Japan or Manchuria when the Philippines were liberated.

Cpl. Eddy R. Laursen
Birmingham Gen. Hosp.
Van Nuys, Calif.

*To be entitled to the Infantry Combat Badge and the accompanying extra pay, a man has to be transferred to the Infantry; detached service does not make him eligible.*

*To wear the Philippine ribbon the regulation of the Philippine's commonwealth specifies that an individual must have been actually in the Philippines or adjacent waters during the period of liberation. This does not include Japan or Manchuria.*

*Cpl. Laursen seems to be out of luck all around.—Ed.*

**Reenlistment**

Dear Editor:

It's been a month and a half since I've made out an application for reenlistment in the regular Army as an aviation cadet. The application is still laying in my orderly room as no one has any idea what to do with it. Have you?

I was previously an aviation student and had completed the college and ten hour flight training. While awaiting shipment to pre-flight school, Gen. Arnold made his announcement of a surplus of pilots. I was relieved without prejudice for the convenience of the government.

Have you any information on my being able to return to the status of an A/C?

T/5 Joseph P. Kuchera
214th Sig. Depot
San Francisco, Calif.

*As Aviation Cadet training has been suspended for some time, applications for this training are not being accepted. Therefore, T/5 Kuchera cannot be reenlisted at this time in the Regular Army in the grade of A/C. When the A/C program is reopened, former students will be expected to meet the new requirements for cadets.—Ed.*

Vol. 29 No. 3 March-April 1946

# AIR FORCE

THE OFFICIAL SERVICE JOURNAL OF THE U. S. ARMY AIR FORCES


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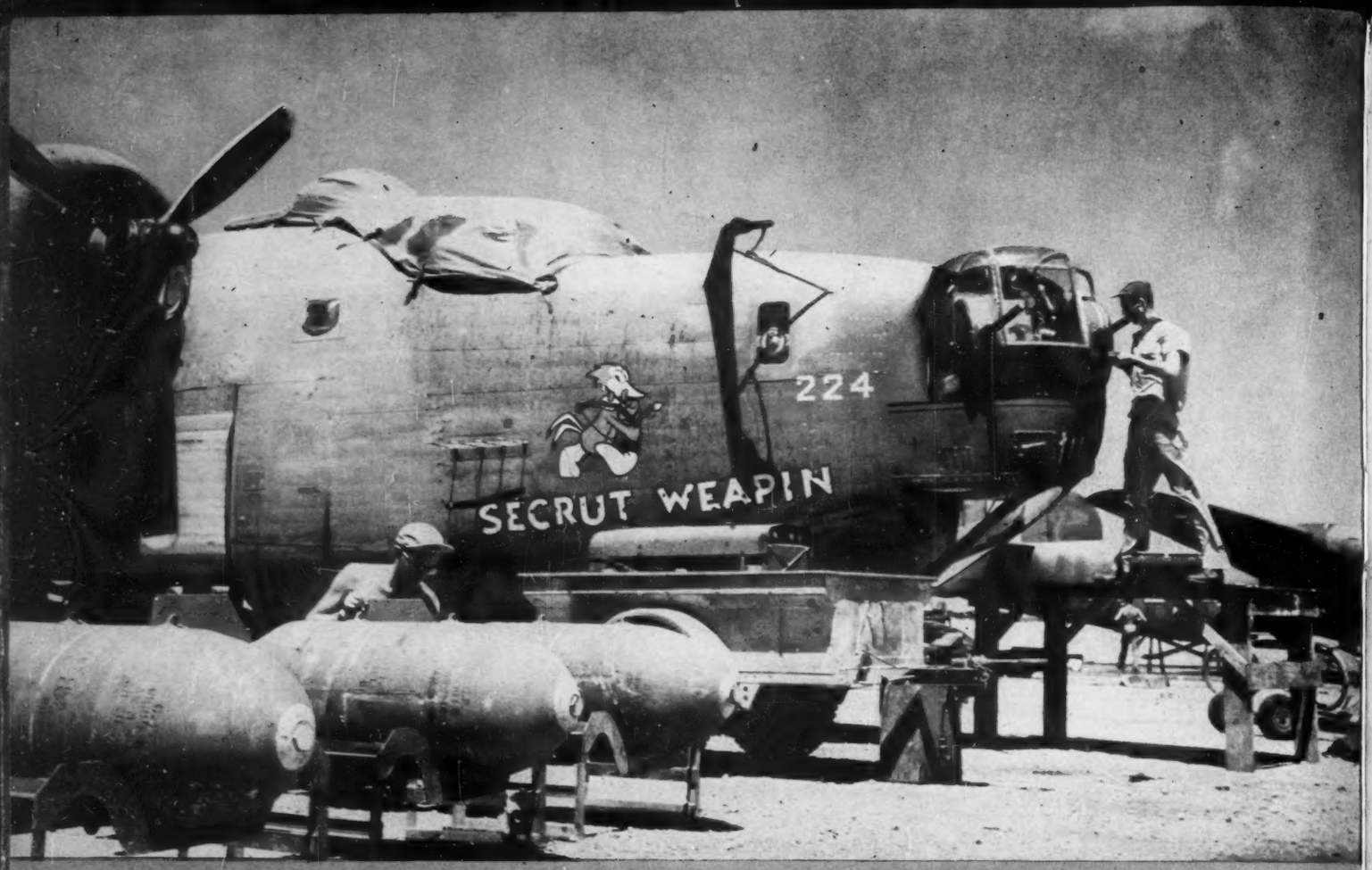



## How Sharp are YOU?

This picture shows 7th Air Force crewmen on Kwajalein Island preparing their bomber for a mission against the Japs. It doesn't have much news value but it does have some details that will test your mental keeness. Take a look at the picture for a full 60 seconds, remembering as many details as possible, then turn to Page 36 for a list of 12 questions. Eight correct answers is fair, nine good, ten excellent, and twelve puts you on top of the class.

**HOW SHARP ARE YOU?_____Turn to Page 36**

**"Fustes' . . . "**

Dear Editor:

I appeal to you to settle a controversy which has raged not only overseas but all over the United States as well. Could you tell me the name of the first heavy bombardment group to become operational in the EAME theater?

Being a member of the 98th BG, I naturally support the contention that we were first, but this statement is hotly contested by former members of the 376th and 91st BGs. I am almost certain that the 98th was the first group in the MTO to become operational, but I'm interested in the first heavy group in the entire EAME theater of operations.

Lt. Lee Huddleston
Sqdn B-4 RAAF
Oskaloosa, Kansas

*The first operation by USAAF heavies in ETO, MTO or ME was a raid on 12 June 1942 when 13 Egypt-based B-24Ds of the Halverson Detachment attacked Ploesti. The Halverson Detachment had been en route to the Far East to carry out a secret bombing mission but had been diverted to Egypt to aid in the struggle against Rommel's Afrika Korps.*

*The next heavy bomber unit to go into action was the 9th Squadron of the 7th Group which had arrived in Egypt from India on 28 June. General Brereton brought the Squadron with him when he was transferred from India to Egypt, and on 2 July 1942 it carried out a raid on Tobruk.*

*On 20 July the Halverson Detachment and the 9th Bombardment Squadron were consolidated to form the First Provisional Group. As of 2400 hours, 31 October 1942, the First Provisional Group became the 376th Bombardment Group (H).*

*The 98th Bombardment Group (H) began operations from Ramat David, Palestine. Its first mission was on the night of 30/31 July 1942 when it bombed Mersa Matruh harbor.*

*The 91st Bombardment Group (H) did not arrive in the UK until October 1942, and so did not begin operations until after many other units had become operational in ETO, or ME.*

*The first operation by USAAF heavies out of UK was on 4 July 1942 when some planes of the 97th Bombardment Group (H) and the 15th Bomb Squadron (L) participated in a raid against airdromes in the Low Countries. The planes flew as part of an RAF mission and formation. On 17 August the initial all-American operation was carried out when planes of the 97th raided Rouen Lotteville M/Ys.*

*It appears very certain that the first operations by heavies in EAME were out of ME.*

*If the Halverson Detachment and the 9th Squadron are considered as the ancestors of the 376th Group, then that group was the first to operate in ME. On the other hand the 98th was the first to become operational under its group name.—Ed.*

**A. V. Roe and Son?**

Dear Editor:

I note with interest that in The Album of the November Issue you list two planes by the same designer, and seem to convey the impression that they were different people. Maybe you did not realize that the

"boxkite designed by an Englishman named Roe," and the Avro job flown by the character with the cap were undoubtedly of the same fevered brain, a now famous brain, Mr. A. V. Roe. So you see, merely putting his initials to his last name, he became Avro, now the famous A. V. Roe Ltd., builders of some of the biggest and best in the British Empire.

Having flown the Avro *Anson* for Canada, I often wondered if he may not have added an heir to the firm.

Capt. Kenneth L. Hornbeck
Ferrying Squadron, ATC
Lunken Airport, Cincinnati

**Can You Top This?**

Dear Editor:

Your October issue carried a letter signed by Major Andrew J. Milstead, regarding the 316th Troop Carrier Group.

I don't know whether the 64th Troop Carrier Group, known as "Cerny's Circus," can top their record, but we sure will try.

The 64th sports eleven campaign stars in their EAME ribbon; one campaign star in their Asiatic-Pacific ribbon; the American Theatre ribbon; and the Distinguished Unit Citation. With the exception of the 4th Squadron of the 60th Troop Carrier Group, the 64th has the distinction of being the only Troop Carrier Group which served in all three theatres. They made all the way stops from Goose Bay to Dinjan via England, North Africa, Sicily, Italy, Southern France, and India.

Major Howard W. Jespersen
556th AAF Base Unit
Long Beach AAF, California

*The 316th Troop Carrier Group received three Distinguished Unit Citations and nine campaign stars for service in the ETO. Looks like the 64th wins on campaign stars and the 316th on Unit Citations.—Ed.*

**Bird Identification**

Dear Editor:

On the 2nd Air Force shoulder patch, is the eagle standing on a branch or has he some other object in his claws? If it is not a branch, what is it?

Cpl. A. Beshansky
1045th AAF Base Unit
San Antonio, Texas

*The bird on the 2nd Air Force patch is a falcon, not an eagle. In its claws are jesses, which are leather thongs used by the falconer to keep the bird on his wrist.—Ed.*

**Mad at the World**

Dear Editor:

Reference "End of an Empire," page 28, December, '45 AIR FORCE.

"200 knots per hour!"

Being mad at the world in general and at ATC in particular for having been bumped off here—let me point out the above trivia.

The word "knots" is in itself a measure of speed.

"Knots" to your asleep-at-the-switch proof reader.

S/Sgt. Geo. Heaton
Hq. 8th Air Force
Okinawa

*(Continued on Page 48)*

# In This Issue

With much of the grim business of war behind, AIR FORCE takes a happier view of things and brightens its cover this month. S/Sgt. Harry E. McGrath, lucky young man in the featured picture, is being helped "along the road to recovery" by Murial Dobres rhumba instructor at the Pasnan School of Dance in Miami. Harry was a gunner with the 500th Bombardment Group when he was shot down on his 16th mission. During his seven months in a Japanese prison, he lost 70 pounds and spent 120 days in solitary confinement. Now that he has been liberated, he is enjoying a vacation at Miami Beach as a guest of the AAF. This picture and those appearing on pages 24-25 were snapped by Sgt. Raymond Mascali, photographer for the Public Relations Office, 1020th Base Unit, Miami Beach. Capt. Harry T. Moore, former AIR FORCE staff member, did the story before he left to instruct in the PRO School at Orlando, Florida.

☆

Ever since V-J Day the question, "What Will Constitute Our Post War Air Force?", or similar queries have been made by hundreds of thousands of us who served in the AAF in overseas theaters and at home. Now AIR FORCE is able to answer many of these questions, the word coming from our commander General Carl "Tooey" Spaatz whose article "The Future of the Air Forces" appears on page 8. General Spaatz announced only recently the over-all plans for our armed legions of the air. All AAF veterans, present members and prospective personnel should find General Spaatz' message informative and interesting.

☆

Under the direction of General Norstad, A-5, the Strategy Division has interpreted the effect that the atomic bomb and futuristic weapons have had on AAF planning for the post-war air force, its equipment and personnel. Major Kenneth Gantz, Chief of the Staff Reports Division, OIS, has expressed these views and policies in his article, "The Atomic Present" on pages 4-5.

☆

AIR FORCE has a new Art Director. He is Capt. Philip Santry, whose artistic life has been wide and varied, ranging from studying as a portrait painter to drawing cartoons for Terrytoons. Interspersed in his career were periods when he 'ghosted' a comic strip, made motion pictures for Standard Oil of New Jersey and illustrated "Flying" and "Air Trails." He is certain that his humor was developed since he entered the army as a "buck private." Since donning his uniform, Phil has drawn for Training Aids Division, AAF School of Applied Tactics, Technical Intelligence at Wright Field and now for AIR FORCE. On the inside front cover he gives you an artist's conception of a flying wing.

☆

Capt. Arthur Dreyer gives an account of a prison newspaper in "The Kriegie Press," pages 16-17. Capt. Dreyer was a navigator-bombardier with the 311th Bomb Group when he was shot down over Bolzano, Italy, Christmas Day 1943. After serving his apprenticeship in various Stalags, Capt. Dreyer was liberated and is now a student in the PRO school at the Air Force Special Staff School.

☆

"Dress Rehearsal for Drones," pages 12-13, is an account by a veteran AIR FORCE Staff writer, Charlotte Knight, of her trip in a radio-controlled B-17 that was being readied for the coming atomic bomb test in the Pacific. Charlotte was the first woman to fly in the remote controlled bomber. Her luck at being 'first' seems to have begun at Boca Raton, Florida when her name was drawn from a hat, and she became the first woman to fly in a plane making a GCA landing. At Roswell, New Mexico, the hat act was repeated and she was first again. Now she is hoping that her name will be pulled for a ringside seat when the atomic bomb is tested in "Operation Crossroads" which she writes about on pages 10-11. More "first luck," Charlotte.

☆

Demobilization, being what it is, has whittled the staff of AIR FORCE to a small stick. Consequently, the March and April issues are combined. That brings up another question. As we no longer have an overseas staff, we will appreciate contributions in the way of articles, stories and pictures from the occupation forces. Full credit will be given for all items used.

## SUBSCRIPTIONS

Subscriptions to AIR FORCE are no longer being accepted on a yearly basis. Individuals desiring copies may obtain them for 20 cents a copy by writing to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

# THE ATOMIC PRESENT

By Maj. Kenneth Gantz
*Headquarters, Army Air Forces*

## AAF STRATEGISTS SHAPE TACTICS AND AIR ARM TO DEFEND AMERICA FOLLOWING DISCOVERY OF THE MOST REVOLUTIONARY WEAPON OF ALL TIME

At 0145 hours on the fifth of August, 1945, aircraft 44-86292 rolled down the runway on Tinian Island, the B-29 base to the southwest of Saipan. It flew 700 miles through the darkness to Iwo Jima and turned northwest over fifteen hundred miles of open water to the island of Shikoku. After rendezvous with two escort aircraft it passed over Shikoku and the Inland Sea to the island of Honshu. At 0815 hours it bore down on Hiroshima from the west and released its bomb. At 1358 hours it landed again on Tinian Island.

When it landed, it was no longer the B-29, slightly modified, which had taken off twelve hours earlier. It was an air force. It had just proved that it was capable of wiping out the principal cities of Japan on a few successive days.

The bomb it had delivered staggered public conceptions of warfare. With the news of its strike, public opinion ran wild overnight. And it is still running wild, between the hysterical clamor that there is no defense against atomic warfare and the absurd dismissal of the A-bomb as just another bomb. With one breath the bomb is undersold, with the next it is oversold. Positive and vocal personages declare the need for vast armed forces of overwhelming power to insure that the bomb can never be used against the United States. Other positive and vocal personages insistently deny that navies and armies and even air forces are useful for any purpose of defense or offense.

The atmosphere in which any question concerning the make-up and the size of the post-war armed forces of the United States must be proposed is, as a result, an atmosphere of confusion, alarms, uninformed speculations, assertions of the unimpaired worth of traditional instruments of warfare, and vehement denials of any use for them at all. It is in the midst of such an uproar that the Army Air Forces is getting ready to go before the Congress with its considered proposals for its part in the post-war defense of America.

However absurd the extremists may be and however uproarious the confusion, it is clearly time for a review of the demands of national security and a new inventory of our capabilities for defense. It is definitely the responsibility of the Air Forces to evaluate as closely as is humanly possible the effect of the A-bomb and other fantastic new weapons on aerial warfare and to make recommendations to the War Department and eventually to the Congress and the people to provide for a national defense compatible with the times. It is their responsibility, because they bear part of the responsibility for national security, to discover the part of an air force in the defense of the United States and the best means now available to carry out its mission.

Before actual plans were made, some straightforward thinking had to be done about the effect of recent trends in warfare on the requirements of the AAF in personnel and equipment.

First of all, just what had the A-bomb done to warfare in general? And if it had changed the methods of war, just what was the role of air power, if any, in the new war it had made possible?

AAF strategists began with an analysis of the use of the A-bomb against Japan. In spite of the awful power of the bomb, the destruction of Hiroshima and Nagasaki did no more than underscore what had already been written into the fate of Japan by bombs of conventional types—that the destruction of every Japanese war installation and production facility was completely and certainly assured by American command of the air. Japan had been lost from the time that its out-matched air force was powerless to stop us from setting up bases for the huge B-29 missions that ravaged her key industrial cities. Japan was lost when the tactical default of the Japanese Air Force in the final battle over Japan practically guaranteed the success of every strike made by our air forces. When the A-bomb was dropped, Japan had already been defeated by the cumulative weight of conventional bombs.

The spectacular conversion of one of our B29s into an entire air force did demonstrate the tremendous lethal effect of the A-bomb, but its real significance in the Japanese war was to reemphasize the war-long lesson in what air power can do to a nation unable to resist it. This lesson had been taught with increasing force throughout the war. The bombing of Hiroshima and Nagasaki merely closed the book.

The conclusion, then, that our AAF strategists drew from the defeat of Japan was that if a nation cannot resist the application of modern air power, it is doomed, whatever the type or the power of the explosives rained upon it.

AAF strategists are of the opinion that the greatest effect of the A-bomb is upon the nature of warfare itself and that this effect is the dominance of air power. The discovery of atomic explosives is the most revolutionary military discovery of all times, undoubtedly exceeding in importance the discovery of gunpowder in its effect on military tactics. The destructive power of the A-bomb has profoundly disturbed—no one knows exactly how much until suitable

tests and experience reveal it—the tactical significance of defensive fortifications, troops in the field, and warships at sea. Perhaps the only instrument of present warfare not extremely vulnerable to atomic attack is an air force, because air power is capable of wide dispersion and rapid assembly. Considered in relation to deployment of troops or ships or even to extent of fortifications, the areas devastated by the single bombs of Hiroshima and Nagasaki were extremely large. And it is reasonable to believe that those bombs were small in comparison to the ones of the future.

The Hiroshima bomb equaled 20,000 tons of TNT. Pound for pound, atom bombs explode into power, thousands of times greater than the power of other explosives. Their adaptability to delivery by air at great distances makes the airplane at present, and its descendants in the future, the greatest offensive weapon of all times. For the present—and it is with the present that any present planning must deal—the defense of a nation resolves itself, as a result, into defense against aggressive air power armed with the seemingly all-potent new explosive.

Since it is possible that other nations will soon attain to the current achievements of the United States in aircraft and the production of atomic energy, we must assume that any attack on us will be an air atomic attack, coming in all likelihood by the great circle routes over the strategic polar areas which are the new no-man's land between nations in the age of air warfare. How the polar routes made possible by present equipment bring the major cities of the northern hemisphere within round-trip range of air attack is graphically shown on page 7.

Whatever air forces we possess at the moment of attack will be our main defense. This put the problem to AAF planners pretty directly: What composes the minimum air power upon which we can depend in an hour of national emergency? To solve the problem, they have had to consider the warning of impending attack which can be anticipated, the range and character of predictable operations, the weapons and equipment available to conduct them, the developments and changes which are probable, and the capabilities of possible enemies.

As to warnings, an alert intelligence service can discover the potential ability of a nation to wage atomic warfare. The degree of industrialization and exploitation of resources of raw materials which is at present required for the production of atomic energy cannot be completely concealed. Just one of the three atom bomb plants on the 59,000-acre tract at Oak Ridge shows up rather large on the Tennessee landscape, as is shown in the accompanying photograph. The atom plants in isolated areas of the United States were so compartmentalized that the workers themselves had no knowledge of the finished product of their plants, but that was before 5 August 1945. Now that the clue has been revealed, intelligence operatives could hardly overlook the existence of mystery plants, which must make something. And if the plants could be concealed, our knowledge of the scientific data on nuclear fission which is generally available and of the technological development of the various nations makes it possible for us even at this time to estimate the date that atomic energy will be available to a nation.

Yet, intelligence cannot be depended upon to yield more than information about the ability of a nation to launch an aerial atom attack. For warning of an actual attack we must rely upon an early-warning system adequately disposed to afford all-around coverage and worldwide range. With present early-warning radar equipment such coverage and range imposes a careful choice of out-post bases that guard all approaches to the United States. Attack control centers centralized for complete unity of world-wide command must continually and immediately evaluate all contacts for readiness of action. All inter-continent flights will have to be cleared with the control centers. Until radar or some comparable system is developed to afford world-wide range, there is no choice but to maintain a far-flung periphery of warning posts reporting to a centralized control or to depend upon inadequate coverage, which is no coverage—and no warning—even under present capabilities of attack.

Air attack demands immediate action. No more than a few hours can intervene between the best possible first warning of approaching enemy forces and the release of enemy bombs. Whatever is available to ward them off must be committed to action when the warning is received. But defense alone will not protect the United States—not even the best defense that can be theoretically expected. Only a few enemy bombs need to strike their targets to weaken seriously our war potential, and some will inevitably get through our defensive screen. Atomic attacks have such a potential of destruction that no nation can endure them for many days and wage war.

A defensive nation—and the United States by its peace-loving, peace-demanding nature is a defensive nation—faces a great disadvantage. Interceptor weapons require greater maneuverability and greater control and guidance than offensive weapons. There must be many more of them. The probability of interception is by reason of the size and number of possible targets lower than the probability of at least some success for the attackers. The targets available to the aggressor are relatively large land mass urban areas of fixed and known location. Widely scattered choices of such targets exist in the United States. But the targets for our defense will be speeding, maneuvering air weapons, for the time being aircraft, which will close the action at extreme speeds against pre-determined targets. Some of every wave of the attack will get through.

A defensive-offensive—immediate retaliatory action—against the aggressor's bases and cities and war potential—is the only hope of survival. The waves of attack must be reduced and choked off at their source. While it yet has the strength, the defensive nation must destroy the attacker's power to attack. The decisive raids of an atomic war may very well come off in the first days or even hours of an unannounced war. An over-powering counter-offensive is the only defense.

The only counter-action to air attack is successful all-out attack upon the aggressor. Counter-attack is clearly the prime mission of the modern air force. Purely defensive tactics of an interceptive character are secondary because

they are incapable of complete success. The tactic for the defense of the United States is to sweep the enemy from our air as cleanly as possible and to hit back at once so hard and so often that he cannot keep coming. Defense of the nation has become fundamentally an air defense. Other forces cannot be brought into action in time for the first swift, decisive battles, nor can they engage the enemy miles high above the land and sea or reach into his homeland and choke him in hours. First of all the rival air powers must have it out, if war comes again.

The AAF has determined the defensive-offensive air forces that present capabilities of warfare call for. A plan has been placed before the American people for a 70-group air force, built at present—as striking forces of the present must always be built—on the equipment available at present. The fantastic weapons of the future, although beginning to be realized, have not yet been tactically realized. Today and in the future for which present plans can be made, the placing of the atom bomb on its target still requires a balanced air force of the current bomb carriers and fighting aircraft.

The trend toward a warfare of rockets and guided missiles is clearly indicated, but until we can depend upon rockets and long range ground-to-ground and ground-to-air guided missiles as our offensive and defensive weapons, we shall have to rely on our conventional aircraft for dropping both conventional bombs and launching guided missiles. For some time to come ground-to-ground guided missiles will be suited only for area bombardment over relatively short ranges over a fixed front. And the atomic warhead is not at present economically suitable for this type of missile.

Our B-29 is the most efficient carrier in the world today for the atom bomb, and the tactics that permitted the delivery of the bomb to its Japanese targets will vary little until new weapons of offense are developed or more advanced than they will be within the time being planned for now. The best weapons of defense still consist of our current interceptor aircraft, supported by antiaircraft artillery and put into action by early warning systems.

AAF strategists have then to plan for a post-war air force in the light of a realization that air superiority, direct assault, diversionary attacks, and escort missions will continue to be the tactics of the delivery of atomic or conventional bombs for some time to come. The decisive action of warfare has become revolutionized in a few months to become predominantly waged in the air. Yet in aerial warfare itself and in air forces the experts of the AAF see no revolution or forecast no revolution.

Ultimately the improvement of guided missiles will permit a shift from pilot-guided and ground-aimed weapons to projectiles remotely controlled or self-guided, ground-launched or air-launched. Change there will be. Constant change there is—a constant modification in equipment and tactics—but no sudden shift to pilotless missiles and remotely controlled projectiles is anticipated. Change will come not through revolution but through evolution.

Current trends in AAF research indicate a constant modification of the currently planned air force in the direction of a maximum use of mechanized weapons and a minimum requirement of personnel for their operation. Yet it does

(Continued on Page 48)

# Around the Corner

*Polar air routes bring all important nations within striking distance of each other*

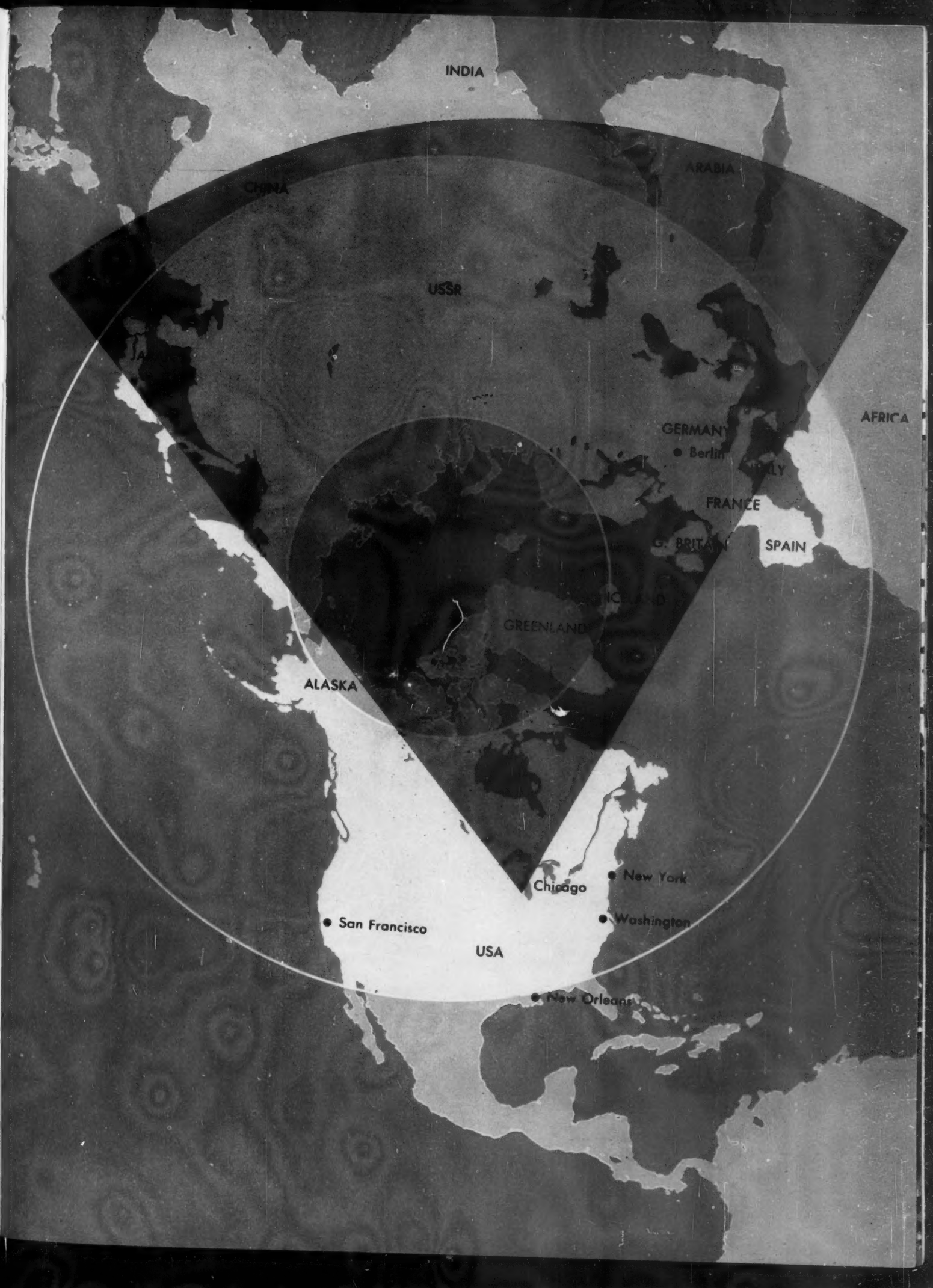
POLAR PROJECTION BASED ON INFORMATION SUPPLIED BY CAPT. HARRY SINGLETON, HEADQUARTERS, AAF, WASHINGTON, D. C.

The adjoining polar sterographic chart illustrates the important changes in point to point distance that go with the current change in global thinking from a flat-map to a polar sense. The key to shortening distances is the North Pole and the Artic Circle. Aircraft based on the sixty-fifth north parallel are a threat to the peace and security of every nation located on or north of the thirtieth parallel of latitude. Our B-29s are capable of launching a mission from any place on the sixty-fifth parallel and flying over the top of the world to strike any nation north of the thirtieth north parallel. Conversely, any nation with long-range aircraft based on the sixty-fifth north parallel can attack the United States by flying over the North Pole

Close scrutiny of the map will show that almost every nation or combination of nations whose population and industrial potential enables it or them to wage modern warfare lies within the area surrounded by the sixty-fifth north parallel and the thirtieth north parallel. The thirtieth parallel passes across northern Mexico and the Rio Grande into southwest Texas. It lies just north of Houston, hits New Orleans and touches the Atlantic just south of Jacksonville, Florida. Crossing north Africa far south of Gibraltar it extends through Cairo, south of Jerusalem, across Arabia, northern India and into southern China where it lies a little north of Chungking and south of Shanghai. It crosses the Pacific south of the home islands of Japan, a little north of Wake and considerably north of Hawaii. The sixty-fifth north parallel passes just north of Nome and Fairbanks, Alaska and crosses the great expanse of northern Canada. It hits the southern tip of Greenland, center of Iceland, middle of Norway, Sweden and Denmark, then extends across the vast reaches of northern Russia.

Routed over the North Pole instead of on the conventional Mercator routes, aircraft can slice large chunks of mileage from their flight plans. Berlin, for example, is approximately 500 miles nearer Chicago via the polar region than it is by regularly traveled routes. Tokyo is about 2,700 miles closer. Similar comparisons will show the vulnerability of almost all strategic areas in the world to attack by polar based aircraft.

At present we have a plane with a range of ten thousand miles giving it a striking radius of five thousand miles. This narrows the world and increases the possibility of attack from what were formerly considered remote places. Under this new polar concept of attack and defense, the world is just around the corner. ☆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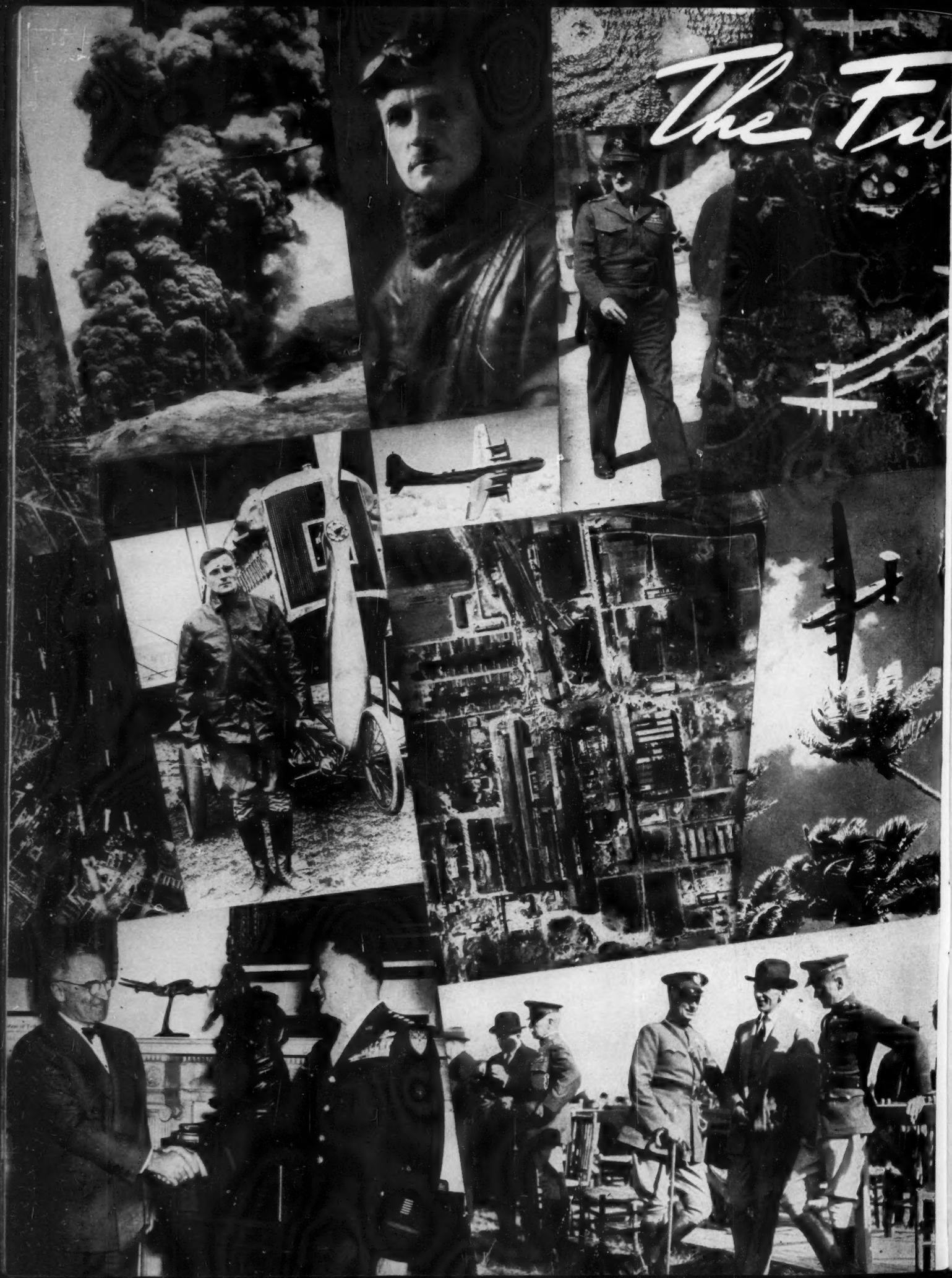

The Fut

# ...ture of the Air Forces

**For some time before he assumed command of the Army Air Forces, General Spaatz devoted much study to revising the organization, requirements and policies of the AAF in view of its interim and peacetime missions. Below are outlined the essentials of his proposals.**

**INTERIM PHASE:** Withdraw major combat forces from overseas, screen personnel for discharge, complete studies designed to establish the organizations and functions of our postwar air force, reduce the number of our groups on a planned schedule, and redeploy our forces in the light of new strategical requirements. This interim phase will end with the establishment of the stabilized peace time Army Air Forces.

**MISSION:** The mission of the Army Air Forces consists of developing, training and maintaining a military force capable, through the immediate, sustained and increasing exercise of air power, of constituting our first line of defense in maintaining the integrity of the United States, its possessions and interests; of supporting the United States' foreign policy; and of cooperating and working in conjunction with ground and naval forces similarly engaged.

**CO-EQUAL STATUS:** The mission of the Air Forces can only be met fully by an air force which enjoys parity with the land and with the sea forces. The Air Force has proved that it can accomplish the progressive destruction and dislocation of an enemy military, industrial and economic system to a point where his capacity for armed resistance is weakened fatally. In this, the Air Force is unique since it possesses inherently and to an extreme degree characteristics of mobility, speed, range, flexibility of employment, surprise and fire-power. These attributes cannot be exploited to the fullest extent without autonomy for the Air Forces and the assumption of its rightful place in the councils of war. Autonomy for the Air Forces is therefore believed to be in the best national interests.

**PERMANENT STRENGTH:** Regular Air Force of 419,355 officers and men, organized broadly into 70 Groups as follows:

25 Very Heavy Bombardment
25 Fighter
5 Light Bombardment
10 Transport
5 Tactical Reconnaissance

In addition, it is planned to have 49 separate squadrons consisting of transport, tactical reconnaissance, night fighter, weather reconnaissance, mapping, liaison and emergency rescue units. TOTAL AIRCRAFT REQUIREMENTS: 5,200 for first line tactical use; 2,300 for training and 500 for air transport.

**RESERVE:** The Air Reserve and the Air National Guard form an integral part of the air defense structure of the United States. The mission of the Air National Guard is to provide a reserve component of the Air Forces capable of rapid expansion to war strength, able to furnish air units fit for immediate service anywhere in the world and which, together with the Regular Army Air Forces, will provide an M-day air force capable of the proper conduct of air defense, air offense and joint action with surface forces. The Air Reserve is to be capable of furnishing, in the event of emergency, additional trained commissioned and enlisted personnel for necessary replacements and expansion of the Air Forces. These units, effectively organized and trained in time of peace for rapid mobilization, expansion and deployment, will, together with the Regular Air Forces and the Air National Guard, constitute the balanced Air Force.

The requirements for such an Air Reserve and Air National Guard would add 6,000 aircraft of all types. With this addition, our overall aircraft requirement would be approximately 14,000 airplanes.

**DEPLOYMENT:** The deployment of our air combat units should be consistent with the concept that we must be prepared to meet any aggressive thrust aimed at our national security at points well beyond the continental limits of the United States in order to preserve our bases from loss and our productive capacity from damage or destruction. The minimum number of units will be held on overseas bases in order to prevent dissipation of our strength and permit the maintenance of a strong air striking force readily available for rapid concentration and employment. Thus, while a fair share of the 70 combat groups may under this concept have their primary stations in strategic areas about the globe, a suitable program of rotation will insure the presence of a strong, mobile air striking force in the continental United States. The remaining units, based in the United States, would serve to meet our tactical requirements and form the bulk of a mobile striking force quickly available to reinforce and complement our units in forward base areas.

**COMMAND ORGANIZATIONS:** Operating under Hq. AAF, will be three major combat commands and five supporting commands as follows:

1. Strategic Air Command (combat groups of the long range striking forces).
2. Air Defense Command (air defense of continental U. S.).
3. Tactical Air Command (cooperative missions with surface forces).
   ***Immediately under the above three commands will be the numbered Air Forces.***
4. Air Materiel Command (supply, logistic and certain research functions).
5. Training Command (all phases of individual training except higher education carried on in the Air Universities and unit training conducted by the three Combat Commands).

(*Continued on page 47*)

# OPERATION *Crossroads*

On or about 15 May one B-29 aircraft, manned by a hand-picked crew which will have competed with others for weeks to win the opportunity, will fly over 98 Naval vessels assembled in the lagoon of Bikini atoll in the Marshall Islands. It will sight its specific target and will release one atomic bomb of the Nagasaki type, set to burst at an altitude of several hundred feet.

Upon a precisely-timed signal from the bomb-dropping airplane, four photo B-29s (F-13s) some ten miles away, will roll out and head directly toward the blast at an altitude of 30,000 feet. Four other standby F-13s will fly at still higher altitudes, and these will be followed by two camera-equipped C-54s. Exactly two-thirds of a second before bomb-release, all of the 25 specially mounted cameras in each of the photo planes will begin to turn. For six seconds, nose cameras set at 1000-frames-per-second will photograph the initial split-second atomic flash. The planes will then orbit the target area (remaining probably nine to twelve miles from the center of the burst) and the other cameras will photograph from all possible angles the great cloud of smoke, gas, and exploding debris until there is nothing left to see, probably a matter of two hours or more.

Simultaneous with the bomb-drop, still other Kwajalein-based Superforts will release at exact pre-determined locations several parachutes attached to pressure recording instruments and blast gauges with which to measure effects of the explosion.

"Mother" planes, orbiting safe distances from the burst itself, will direct four unmanned radio-controlled "Drone" or "Babe" B-17s into the atomic cloud. Each will be equipped with special instruments to record automatically the mushroom cloud's effect upon the aircraft and its engines, and each will carry bomb-bay "bags" to be opened and closed by remote radio control when the plane enters and leaves the cloud and which will, it is hoped, gather up samples of the radio-active matter for scientific study.

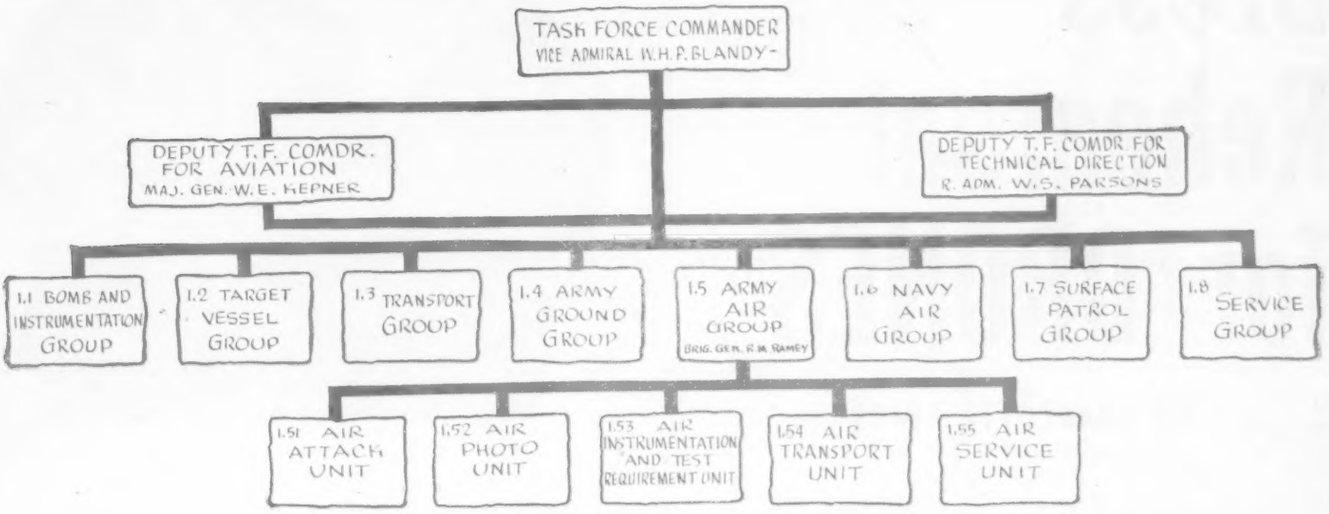
Thus will begin the first phase of the naval and military maneuver, of a nature unprecedented in history, known as Operation Crossroads.

Crossroads is under the direction of the Joint Army-Navy Task Force One and has several major purposes. Chiefly it will attempt to determine the effect of the atom bomb on various types of Naval craft so that these results can ultimately be translated in terms of U. S. sea power. At the same time, however, it will be a scientific laboratory test so arranged as to provide Army Air and Ground Forces and the Manhattan District with highly important technical and military information.

"We are not atomic playboys," emphasized Vice Adm. W. H. P. Blandy, Commander of Task Force One. "We are not trying to prove or to disprove anything. We are trying to find out all that we can that will be useful for the national defense, primarily to the Navy and the Army Air Forces. This test will undoubtedly throw strong light on needed changes in design of ships and aircraft, in ground weapons, in naval tactics and strategy. Furthermore it is a *test* and not a contest."

In all, three atom bombs will be used in the tests against the ships: one airborne, one surface, and one underwater bomb. The first will be dropped by the AAF in May; the other two will be exploded by the Navy. Static detonation of the surface bomb (placed on the water among the target ships) will take place about a month or six weeks after the airborne bomb is dropped, depending on the time needed

## JOINT ARMY-NAVY TASK FORCE ONE ORGANIZATION CHART


TASK FORCE COMMANDER
VICE ADMIRAL W.H.P. BLANDY
DEPUTY T.F. COMDR. FOR AVIATION
MAJ. GEN. W.E. KEPNER
DEPUTY T.F. COMDR FOR TECHNICAL DIRECTION
R. ADM. W.S. PARSONS
1.1 BOMB AND INSTRUMENTATION GROUP
1.2 TARGET VESSEL GROUP
1.3 TRANSPORT GROUP
1.4 ARMY GROUND GROUP
1.5 ARMY AIR GROUP
BRIG. GEN. R.M. RAMEY
1.6 NAVY AIR GROUP
1.7 SURFACE PATROL GROUP
1.8 SERVICE GROUP
1.51 AIR ATTACK UNIT
1.52 AIR PHOTO UNIT
1.53 AIR INSTRUMENTATION AND TEST REQUIREMENT UNIT
1.54 AIR TRANSPORT UNIT
1.55 AIR SERVICE UNIT

for rearranging the ships and installing additional instruments. There are many predictions as to what might take place when this surface burst occurs. Almost certainly heavy underwater pressures and shock to the ships' hulls will result. Scientific personnel have estimated that the initial wind in the close vicinity of the bomb explosion may reach as much as 1000 miles an hour, and that waves may start out at 100-foot heights from trough to crest. However, it is assumed that the surrounding islands and reefs of the atoll will decrease the wave considerably before it reaches the open sea.

The underwater explosion will take place at some spot in the sea where the water is several thousand feet deep. That rules out the Bikini lagoon which is only 20 fathoms deep. This last test in the series will probably not occur until some time next year. It is thus assumed that a full evaluation of the atomic bomb's power cannot be made until all tests are complete.

The target pattern of the ships is in the hands of the Joint Chiefs of Staff, but Admiral Blandy has explained that they will be deliberately placed so that some of them will probably be completely destroyed, while others will receive varying degrees of damage. It is possible that some may receive no damage at all.

"There will be no attempt to rig the test in any way," the Admiral points out. "We simply want to find out the worst the bomb can do and the least it can do."

Data on blast pressures and velocity, temperatures, radiation, the effect on radio and radar, and other vital intelligence is being sought from the test. Radio-controlled cameras mounted on towers on the islands, as well as the radio-controlled planes and other specially designed instruments, will be used to record results. And television cameras, also stationed on the atoll, will picture on a screen aboard the observation ships twenty miles away at sea just what is going on in the Bikini lagoon.

Each of the military and naval services concerned will place on board the target ships all manner of its own specific materiel, including guns, ammunition, radar, clothing, tanks and aircraft which can later be assessed in terms of maximum or negligible damage.

Obviously one of the most important questions is that of what would happen to men aboard the vessels attacked. Although a good deal of information was forthcoming from the Hiroshima and Nagasaki bombings, medical officers consider it necessary to determine the bomb's effect on living creatures in various parts of the ships. Some animals, therefore, chiefly goats and sheep, will be placed in many of the same battle positions that Navy personnel would occupy.

Every precaution is being taken against hazarding the life or health of any individual connected with the Crossroads project. The natives of Bikini, King Juda and his 165 subjects, have been evacuated to Rongerik atoll, 109 miles away. Because of possible oil fires, exploding ammunition, and dangerous radio-activity in the area, a period of time will have to elapse after each of the first two tests before anyone can re-enter the lagoon. It will be up to the Radiological Safety Control officers to determine how long that waiting period must be.

In brief, then, that is the general plan. Crossroads is a joint operation in every sense of the word. Making up the Task Force are various groups representing Army Air, Ground, Service Forces, Naval units, as well as officers and civilian scientists of the Manhattan District.

The operation will involve some 35,000 persons, including military and naval personnel, civilian physicists, botanists, oceanographers, ichthyologists, physicians, geologists, seismologists, meteorologists and other scientist-observers.

*(Continued on Page 36)*

**Brig. Gen. R. M. Ramey,** CG Task Group 1.5, charts course to Bikini with Col. A. F. Kalberer, A2, Col. W. H. Blanchard, CO Air Attack Unit, Col. P. W. Tibbets, Hiroshima pilot and 1.5's Technical Director.

# Dress Rehearsal for DRONES

**Admiral C. A. F. Sprague** is shown the tiny Control Stick Box which "flew" drone Fortress in Roswell, N. M. test.


**BY CHARLOTTE KNIGHT**
AIR FORCE Staff


*Radio-controlled B-17s are cast for important role in Operation Crossroads. Here is an account of one of the first robot test flights*

"Well, so long, you Kamikaze kids," they shouted at us as we climbed aboard the Fortress. "We'll tell your folks we were the last to see you."

The public relations people at Roswell Army Air Field had said two press representatives could draw lots to go along on the flight of the radio-controlled B-17. Morley Cassidy of the *Philadelphia Bulletin* and I had won, and no amount of grim banter on the part of the fourth-estaters we left behind was likely to talk us out of it. We wanted on.

We figured that the next best thing to being on hand when man found he could fly the airplane was this experiment wherein he demonstrated that he could fly it *without* man. Neither of us is ever likely to forget that flight. The first radio-controlled B-17 landings had been made at Clovis, N. M. just a few days previously, and we were the first "feather-merchants" to fly in one of these "Drone" ships now being readied on the New Mexican desert for their forthcoming role in the "Crossroads" atom bombing at Bikini atoll in May.

The battle-weary, four-year old B-17 shivered a bit as she took off from the sun-streaked runway, but she made it. Then she flew around for about 40 minutes, buzzed the field a couple of times, and landed—all by radio.

This was an incredible performance, but after it was over there was one person who was inclined to take a very dim view of the proceedings. He was an exceedingly young pilot with silver leaves on his shoulders and about 150 points' worth of combat decorations and clusters on his chest. He shrugged disconsolately. "Well," he said, "there goes my job!"

Others had sentimental reasons for experiencing a slight touch of sadness. The mighty Fortress had ceased to be a USAAF B-17E type airplane, heavy bomber, one each, and had suddenly become a Guided Missile. Many there were who hated to see the gallant lady lose her soul to a robot.

The new age had come. The possibility of sending unmanned aircraft into areas untenable or inadvisable for humans to enter had now left the realm of theory and become an actuality. Four of these drone aircraft, or "Babes" as the Army calls them, will be sent at different altitudes into the mushroom cloud which follows the atom explosion. Each will carry equipment and instruments required to record effects of the test. (See Page 10.)

The principle of radio-control is not new. Both the Allies and Germans were working on radio-controlled planes, rocket ships and bombs for several years before the war ended. And it has long been possible to control planes in flight by radio from another plane in flight. The Anti-Aircraft Artillery command has been using pilotless radio-controlled PQs as target planes since the early part of the war. But taking off and landing B-17s successfully by radio alone is an operation only recently mastered.

To achieve it, two jeeps equipped with radio "Control Stick Boxes" are stationed near the runway. The Number One jeep at the very end of the runway controls direction by manipulating rudders and also applies brakes on landing. The Number Two jeep is positioned at one side of the runway where it can best control throttles and elevators in take-offs and landings. These control stick boxes are compact, intricate mechanisms weighing but about five pounds apiece; they have ten radio channels starting at 200 kilocycles and spaced up to 1080 and are capable of doing everything a pilot would do.

Once the jeeps have the Babe about 400 feet above the ground, the control switches to the "Mother" plane already orbiting above. The Mother has a similar control stick box in the nose and from it the "remote" pilot proceeds to direct the Babe in flight until the latter is again about 400 feet above ground on the landing approach at which time the Mother hands the control back to the jeeps.

Although the Bikini Babe planes will be passengerless, the test flights, such as the one we were on, carry a safety pilot and co-pilot who can take over the controls manually at a moment's notice should it become necessary. Our safety pilot, Capt. W. F. "Pappy" Tooman—who, incidentally, is an old hand at this radio-controlled business, having grown up with it in a special outfit in the 8th Air Force for two years—assured us we didn't have to worry. "I just got married and I want to live as much as you do.

Stand there," he said and pointed to an absurdly small space on the flight deck just back of the pilot's seat, "and you can make sure we don't do it with mirrors. Okay, here goes!"

Pappy taxied the big bomber down the runway, set the manifold pressure at take-off and opened the throttles. Through earphones came the query from Major Douglas Whittaker who was operating the Number One jeep: "Are you ready, Pappy?" Pappy replied in the affirmative and quickly pulled down a tricky lever connected with a small radio-controlled motor and clamped one end onto the throttle crank. And in less time than it takes to say Eniwetok, the co-pilot, Lt. C. N. Dantzler, flipped a whole series of switches locking the other manual controls. Then to Major Whittaker, "Okay, take it away!" In the Bikini atom test, the pilots will crawl out of the plane at this point, but now they simply leaned back and relaxed. From here on, they were simply along for the ride.

Eyes glued on the controls, Cassidy and I watched strange things taking place. The control column was moving back and forth, the throttles inched back, the plane was being lifted off the ground—and nobody was touching anything. It was eerie; it was strictly comic-strip. Here was I, straight out of the automobile age, right in the middle of something as weird as those robot exhibits I had seen at the World's Fair. I watched it happen and I still didn't believe it.

Out of the side window we watched the wheels come up. We were airborne. In a couple of minutes or so Pappy turned to us and announced that the control had passed to the Mother ship. We banked and began a 50 degree turn. Again that ouija-board spirit was moving the controls. "Ah," said Pappy, "this is the life. Look, chum, no hands!"

"Oh-oh," said Dantzler, "here comes Mom."

About 150 feet to our right and slightly behind us, the Mother ship came into view. We waved a greeting to Lt. Col. Thomas C. Kelly who, seated in the nose of the Mother plane, was "flying" us with tiny "sticks" and levers on his control box. Colonel Kelly is chief of the Controlled Airplanes section at Wright Field and he and his men have been responsible for solving many of the complicated technical problems arising out of the present drone operations.

His Mother ship stayed fairly close to us most of the time. "How far away can we get from Mom?" we asked Pappy. "Right now we are limited to about 20 or 30 miles range," he said, "but by the time the Bikini show comes off, we will have television sets installed in both the Mother and Babe planes. That will extend the possible range."

Fifteen minutes later, ground called to request that we fly low for pictures, so Colonel Kelly had the Babe buzz the field a time or two. Down we flew, back over the control jeeps, past the cluster of observers, including Brig. Gen. Roger M. Ramey, Rear Adm. C. A. F. Sprague and members of the press party.

I crawled down into the nose to take a look-see at the imposing array of radio cabinets and electronic gadgets which took up practically every inch of space in the evicted bombardier's compartment. L. H. Westerfield, a Remote Flight Control Equipment expert from Wright Field, was adjusting the tuning on one formidable-looking set. "Give," I said, "How does radio actually make the flaps go up or down and so on?"

"It's very simple," he explained. "The transmitted signal comes in from the ground jeep or the mother ship and is received here in this box, a BC 617. And then whatever frequency it is energizes a certain channel and closes the relay which in turn actuates the trim motor which drives the potentiometer which induces a signal into the autopilot which causes a specific response, like raising the flaps."

I'd had it. I fled back to the flight deck.

Finally the Babe was lined up for a landing. We were slightly to the right of where we should have been, and Pappy sensed there would be a bit of trouble. He was itching to get his hands on the controls but waited to see if the jeeps could correct us. We straightened out a bit, but just as we came down to the runway, we hit a strong cross wind and crabbed. We hit on one wheel, bounced, landed again and for an instant the plane swerved violently. We bumped along, then suddenly the ground-jeep applied our brakes and we came to a screeching stop in record fashion. The landing was not exactly according to an airman's Hoyle, but nobody was hurt, and the only damage was a broken tail wheel shear-pin—unless you count the damage to Pappy's and Dentzler's spirits. They were very gloomy about that landing and insisted that on every other occasion the Babes had performed beautifully. "You might know this would happen just because we had guests aboard," they said unhappily.

Later we learned that the observers on the ground had been infinitely more concerned about our landing than ever we had been. They reported that a great cloud of smoke arose when we first hit, and accounts of the "bounce" range from 20 to 40 feet. Admiral Sprague is reported to have remarked sotto voce, "Looks as if they need pilots after all." Over-anxious photographers, thinking we either were on fire or certainly would be within an instant, rushed forward hoping for some good crash shots. Neither Cassidy nor I have any illusions about our fellow journalists and we are only too aware that the coolness with which we were received for the rest of the day could probably be traced to our being so inconsiderate as to ruin some good stories. Next time we'll know better. Bikini, here we come. ☆

**After takeoff,** control of "Babe" plane passes from jeep to "Mother" B-17 (left).

# ROADS BACK

CAPT. A. E. HOTCHNER
AIR FORCE Overseas Staff

*The art of evading capture and escaping from German prison cages enabled many of our air crews to outwit the enemy and return to friendly fields.*

Every Air Force had its escape and evasion section which taught combat crews the art of getting away from the enemy. As a result of this schooling, together with initiative, courage and ingenuity on the part of the individual, thousands of AAF combat personnel found roads back to duty again. How these airmen evaded capture or escaped from prison camps make up some of the most intriguing chapters of World War II, which can now be told.

Late in 1943 when the Luftwaffe began to take a heavy toll of bombers it was decided that the Air Force needed an escape organization. A unit was set up and correlated with similar Allied agencies. Contacts were maintained with the European underground which functioned in occupied territories. Later in the war American OSS men were parachuted into occupied territory and into Germany proper. They were able to furnish considerable aid to airmen who had just crash-landed or parachuted to earth, or to men escaping from German prison camps.

Another organization concerned itself mainly with keeping contacts on the continent to arrange for fishing boats and other craft to pick up escaping airmen when they reached the shores of France and the Low Countries and ferry them safely to England. Still another unit aided in getting men out of Spain once they had worked their way out of France through the Pyrenees. The big job of the Air Force was preparing each man so that he would be as well equipped as possible to elude enemy capture if shot down. Crews were impressed with the fact that it was their *duty* to evade capture. Air Force crews were told:

"Ordinarily, only those who possess stamina, will and determination, with good common sense, will be able to elude the enemy and report back for duty in England."

Everything was done to impress upon the individual crew member that he had sufficient good sense and courage to escape from the heart of Germany. Hundreds of pamphlets containing the photographs and exploits of AAF airmen who had escaped were circulated among air base personnel. Many escapees were sent on lecture tours. When a little ball turret gunner stood up before a squadron and told how he had hidden in haystacks over all Germany, befuddled the Nazis who were looking for him and made his way into Switzerland, most of the audience felt a lot more confident about their own chances of escaping if shot down.

All returning escapees were brought to a London headquarters. They were screened and turned over to another unit near London where they were interrogated thoroughly. These interrogations furnished a wealth of information, not only on ways of escape but as to enemy military activity, including gun emplacements, troop movements, and industrial targets. Each new experience helped to perfect evasion technique. Escape bulletins were compiled and distributed; posters were dispatched regularly to the squadrons; and an officer was assigned to every unit whose duty it was to brief air crews on escape and evasion procedures.

Escape aids were furnished to each member of every combat crew; the escape kit, which was composed of maps, money, a steel file and a compass, and the escape aids box, which was made of plastic and curved to fit the leg pocket. It contained halazone tablets, powdered milk, a rubber water bag, benzadrine tablets, malted milk tablets, chewing gum, a fish line and hook, a peanut bar, a razor and razor blades, chocolate, matches, a water-proof match case and foot salve. Anyone who reads through the thousands of successful escape stories now on file cannot fail to be impressed with the fact that few of them would have escaped without the assistance furnished by these escape aids.

On some occasions arrangements were made for special evacuations of AAF escapees. C-47s were flown into small sections which the Maquis held in occupied France, where airmen were picked up and returned to the UK. Flights were arranged to Gibraltar where groups of escapees, who had made their way through Spain, were flown out. One unit was stationed near the Swiss border and managed to "expedite" the return of hundreds of internees. Once Zena, the famous Polish guerrilla, signalled London that a contingent of air force escapees was trapped behind the German lines in Poland. Zena took 200 of his best men, fought his way through the German line, turned the Americans over to the Russians and pierced the German line again, fighting his way back into Poland to resume his guerrilla warfare. The Russians brought the Americans to Moscow whence they were flown to London via Egypt. Before he bade them farewell Zena made all the U. S. airmen honorary members of his band and staged a special parade for them on the Fourth of July.

Although most escapees followed techniques they had been taught, the records show that a few men escaped by doing everything they had been told *not* to do. There is, for example, the case of a 6-foot 3-inch corporal who was captured by a German soldier as soon as his feet touched ground.

The German started walking the corporal along the railroad tracks toward Paris. When they were nearing the city, the Nazi tripped on one of the railroad ties, striking his head on the rail. The corporal hit the Nazi's head against the rail once more, just for luck, and then ambled on down the track toward Paris. He walked along the boule-

yards of Paris, fully dressed in his flying clothes, with his orange Mae West still draped around his neck. Near the Place de l'Opera, which is in the heart of Paris, he spotted a sign which read "American Bar" and, not bothering to note a sign directly across the street designating the headquarters of the Wehrmacht, he entered the bar and inquired in a thick southern drawl, "Anybody here speak English?"

As soon as the customers recovered from the nervous shock of seeing an American aviator standing in the doorway, a Frenchman seated near the bar whispered to him in English, "Keep quiet. Wait two minutes then follow me."

The corporal's escape was handled by the underground.

1st Lt. Robert L. Dawn

There is also the case of a tail gunner who left his parachute laying in the middle of a green field at high noon, walked nonchalantly through a town filled with Nazi soldiers, bought a railroad ticket to Le Havre, unconcernedly sat in one of the compartments while German soldiers went back and forth along the corridors, got off at Le Havre, walked along the piers until he found a boat that would take him to England and walked into London Headquarters the next morning. Just like that!

But you may rest assured that most of the escapes were arduous and harrowing. S/Sgt. Glenn Loveland, ball turret gunner of the 423rd Bomb Squadron, had to escape seven times before he finally made his way into Yugoslavia and found friendly Partisans. Sgt. Loveland escaped three times from Dulag Luft, and one time each from Stalag XVII B, from a jail in Mattersburg, Austria, from a Polish officers' internment camp at Szombathely, Hungary, and from Dulag 172 at Belgrade. It took the sergeant from 13 June 1943 to 4 August 1944 to earn his freedom.

Nearly all the roads back were fraught with peril, especially those out of Germany. After 1st Lt. Robert L. Dawn parachuted into a wooded area near Cologne, he evaded capture by Germans in the area who had observed his descent, only to be fired on later by a German trooper, one bullet grazing his leg. It required two days, filled with suspense, for him to pick his way through the American lines near Zweifall.

Quick-thinking, courage and resourcefulness were also requisites to escape, as exemplified by Lts. William M. Banias, pilot, and Fred B. Foltz, co-pilot, who survived a crash near Tuttlingen. They were being marched by a German soldier into town when Banias asked for a cigarette. When the soldier slung his rifle over his shoulder and reached for his pocket, Foltz hit him on the chin, took his rifle and bashed him on the head. They rolled his body into a ditch and dashed away. Later they evaded tough-looking Hitler youths picking raspberries in the Black Forest, and eventually got across the Swiss border after days of hardship.

Lts. Banias and Foltz

Despite elaborate precautions on the part of the Nazis, many successful escapes were made from German prison camps. A report by Obgefr. Hesse, who was a guard at Dulag Luft and Stalag Luft III, reveals that the Nazis had ferrets (men who searched for tunnels and escape materials) in every camp and that frequent searches were made during roll call and during the night. The PWs usually sensed these searches and the ferrets rarely found more than a few bent nails, pieces of wire, electric light bulbs, small radio parts and indelible pencils. Well-trained, vicious dogs were kept on the premises. All along the barbed-wire fence, microphones were placed in the ground at 10-meter intervals to detect any tunnel-digging activity but these mikes only transmitted sounds down to 5 meters.

As the number of escapes increased, the Nazi camp officials became more jittery. Even the ferrets were searched regularly and on one occasion Obgefr. Hans Schmutzler was arrested for harboring a box of *Sen-Sen*.

Although the ferrets, working in 8-hour shifts, watched each compound for the construction of tunnels, traces of fresh sand, the preparation of escape materials and communication between the prisoners and German personnel, their work was made difficult by PW sentries who covered each ferret—like defensive basket ball players. Also, if a couple of PWs were practicing the shot-put and discus and a good, lively soccer game was in progress, such hell was raised on the fence microphones that no amount of tunnel-digging could be detected. It was in this manner that the famous break of March, 1944, was engineered. A 90-meter tunnel was dug at Stalag Luft III with the assistance of a tunnel-car that ran on rails and carried the excavated sand to one of the PW's rooms. The tunnel reached a depth of eight meters under the fence-mikes so that they were ineffective, and then proceeded under the street into a woods, and came up behind the railway station in Sagan. This meant the escaping PWs had to walk only 100 meters to the railway station where they could reach the platform, by a barrier at the rear, without having to show tickets. At the time of the breakout and at the moment the PWs reached the rail station there was an alert which forced them to remain in the shelter of the railway underpass until the "all clear." They were all dressed in civilian clothes.

In evaluating the 7,000 successful escapes and evasions which were made by AAF personnel from enemy and enemy-occupied countries, and recoveries accomplished from neutral countries, the fact is emphasized that although escape aids and special Allied units were helpful, the big factors were the men's ingenuity and the aid furnished by sympathetic individuals.

Any concept that escape and evasion was a routine matter is erroneous. Aiding escapees was not the primary function of the underground. Of course, it often picked up the men toward the end of their escapes and gave valuable, often life-saving, aid but the men had already gone a long way on their own. ☆

# The "KRIEGIE" Press

BY CAPT. ARTHUR DREYER

At 8:30 on a cold Saturday night, January 27, 1945, we were given one hour to clear the West Compound at Stalag Luft No. 3, German prison camp at Sagan, Germany. This sudden move order meant that the Russians, moving into snow-snagged eastern Germany, were near our camp. It meant that within an hour the men would start a blistery march on which some of them would grow tired enough to throw away food and even book matches to save weight. It meant the end of usual prison life and the beginning of a period of preliberation uncertainty. But it also meant the end of the *Stalag Stump* and the *Kriegie Klarion*, two unique ventures in the field of journalism.

The *Stump* and the *Klarion* were competitive Sunday newspapers of the West Compound, if you could call them newspapers. By civilian standards they looked like little more than glorified notice sheets, but to prisoners, even the one-page typewritten *Stump* looked like the Sunday *Times*.

Seeking to improve upon the early *Stump* a group of us launched the *Kriegie Klarion* June 19, 1944. Instrumental in the launching was H. L. Harmston, an artistic minded B-17 bombardier who lives in Roosevelt, Utah. Capt. Bill Banks of Canton, Ohio, a B-17 pilot, chose the name. "kriegie" is a contraction of the German "kriegesgefangener," meaning prisoner of war, and is the popular title for prisoners held by the Germans.

Our primary problem in starting the *Klarion* was finding materials. In this matter Majors G. W. Cleven and J. C. Egan, former originals of the 100th Bomb Group, helped out. As education officer of the compound, Major Cleven saw that we received a good share of the paper, pencils, water colors, erasers, and other items that came to the Compound through the YMCA. As a substitute for paste we used canned milk from Red Cross food parcels, which worked surprisingly well. We had to hand-print our paper because the *Stump* was using the Compound's one battered wreck of a typewriter. Printing gave us greater freedom in layout. The *Stump* later started hand-printing too and added more pages.

Our Chief printer was Foster F. Perry, a B-17 pilot and former Washington lumber-jack. Perry had taken engineering at school and he knew how to handle a pencil. Harmston and I drafted him from his sack the night we decided to become publishers and he proved to be the backbone of our paper. His chief assistant in layout and printing was F/O Dave Hughes, a bombardier. Before the Sunday deadline Hughes and Perry often worked with pencil and brush for 15 hours at a stretch. Printers had first priority on pencils because it was almost impossible for them to work for long periods with an inch-and-a-half stub. Reporters had to use the stubs they discarded.

At the outset our paper was a single 14 x 18-inch sheet, but it soon grew to six 14 x 25-inch pages. These were posted every Sunday noon on a beaver-board partition in a space set aside as a "news room" and remained on exhibit for a week. The *Stalag Stump* was exhibited nearby in the same manner. Naturally, the competitive spirit was keen, but there was no circulation race. Both one-copy editions had 2,500 readers, the number of men in the West Compound. Any increase in circulation depended upon the accuracy of the German Luftwaffe and flak in downing AAF crews.

To stimulate interest in the *Klarion* we rounded up a large staff of reporters. In addition to the one local correspondent in each of the seventeen barracks or blocks, we had feature writers, sports specialists and others. In all, a staff of about 55, which included Harmston's 13 artists.

As for the paper itself, here is how it looked on the board: A colorful three-foot permanent masthead, painted by Texan Ed Ivy, ran across the top of the board. It depicted an American eagle, perched on a kriegie broom inside the compound, which was surrounded by barbed wire. An iron ball and chain checking its flight, the eagle was looking to the heavens above.

The first page, posted in the approximate center of the board, contained such news as could be gathered within the confines of the camp, water-colored block headlines and two art features. To the left of this was a "news and views" page, left of that a sports page and to the extreme left a comic page. To the right of the first page was a feature page and at the extreme right a page titled "Our Happy Home" in which news from the various blocks appeared. All pages except the four-column "front" and the "news and views"

*The editor of the "Kriegie Klarion" tells how AAF men published a morale building newspaper in spite of prison camp difficulties*

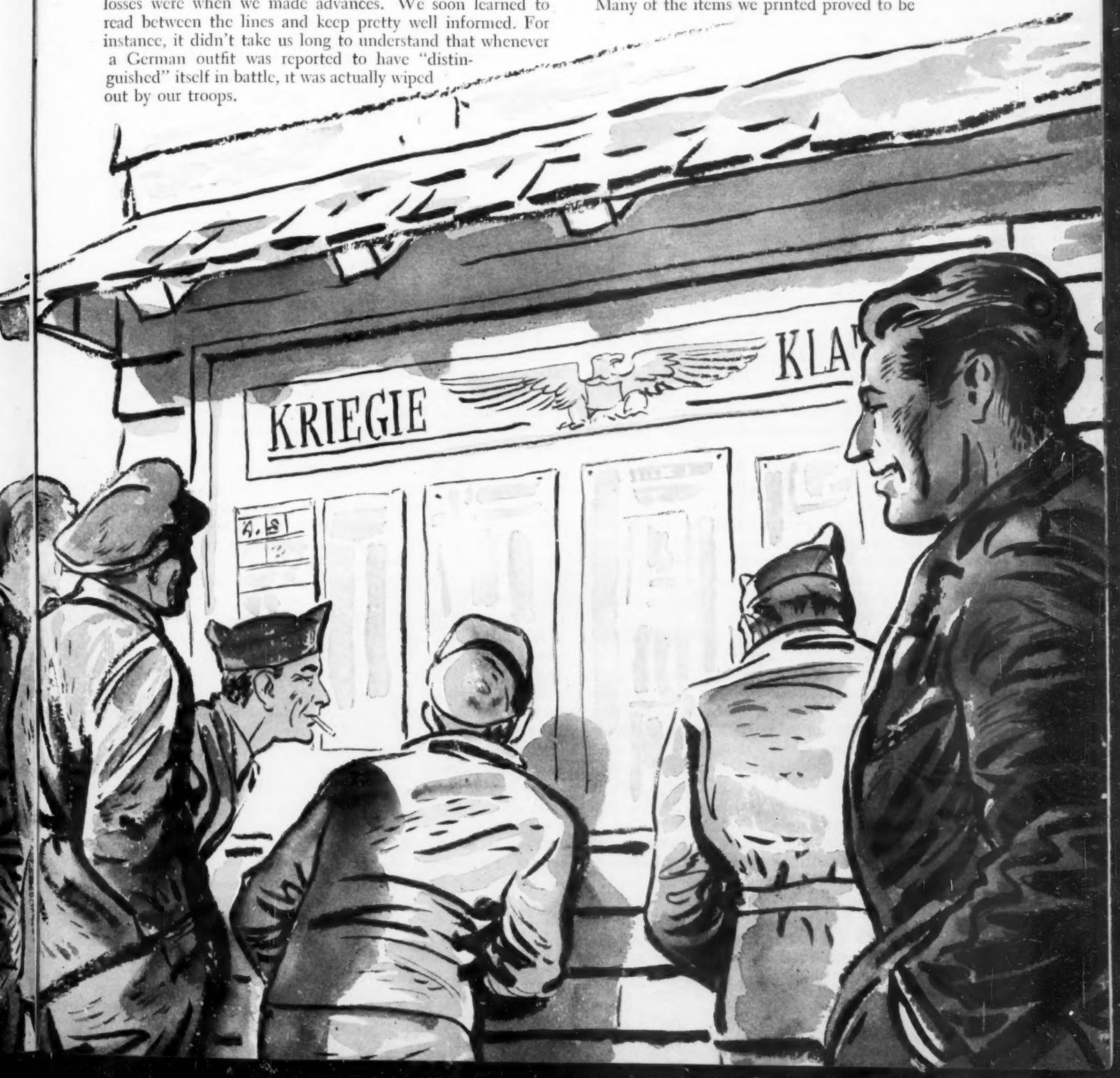
page were laid out in three columns, for easy reading.

Art Ortega, a pilot from Las Vegas, N. M., supervised the news room and was a key man in keeping morale high. He taught himself German during his long tenure as a kriegie and translated the German radio broadcasts we were allowed to hear. Ortega and his staff also translated the war communiques word for word, under close supervision by the Germans, and put them up in the news room with maps illustrating how the war was going on all fronts.

While these German war communiques were not out and out false, information would be withheld and colored to show how well their forces were doing and how high our losses were when we made advances. We soon learned to read between the lines and keep pretty well informed. For instance, it didn't take us long to understand that whenever a German outfit was reported to have "distinguished" itself in battle, it was actually wiped out by our troops.

New kriegies were our principal source of news from the outside world. Every time a new "purge" (group of shot-down flyers) entered the compound hordes of oldtimers would surge around them to ask a million questions. In these "purges" many fellows found their buddies, classmates or, as with the Rosener boys from Wiggins, Colorado, even brothers. A *Klarion* reporter would always be on the scene. If it were a big "purge" we ran a full page covering the latest news from the States, with illustrations. It was through a "purge" that we found out about the "GI Bill of Rights," the combat infantry badge, and that Dinah Shore was wowing the boys in France.

Many of the items we printed proved to be



false but we had no way of checking. It was made clear that any news from the States wasn't vouched for and should be taken for what it was worth. One of our most conflicting stories concerned the 1944 World Series. One report had it that the Cards beat the Browns in six games —another said seven. We finally swung to the seven-game theory.

The only kind of news the Germans gave us about home came in a propaganda weekly called the *Overseas Kid*, which was printed in Berlin. Besides containing Nazi propaganda, its main news stories dealt with strikes and discontent in the U. S. All of this was camouflaged with poems and other features about Stalag III B. However, the Germans did tell us promptly about the death of President Roosevelt.

Local news of front page significance concerned such things as a new musical show to be put on by the kriegies; the arrival of new instruments or other equipment from the YMCA; the announcement of a coming movie, four of which arrived through the YMCA; or an interview with Brig. Gen. Arthur Vanaman, the only Air Forces general to be shot down over Germany and live.

One of the two front page art features was a portrait by Jim Carmel of the man who had done the most for the compound that week. He was selected by the editorial board and a brief written personality sketch accompanied the portrait. The other drawing, called "By the States" by Brinkmier, featured a different state each month. "Brink" Brinkmier, a pilot from Florida, did thirty-three states and for a while it looked like he might have to start on cities.

Poetry was a regular feature of the "news and views" page. There was usually an illustrated verse at the top featuring army planes. And to accompany the girl John E. Jensen drew each week, L. G. Young usually came up with an 8-line poem. Some of the poets who contributed to this page regularly were Joe Houlihan, who did his first rhyming as a kriegie, Fred Hitchcock, a fighter pilot, and John Storer who wrote comic verse.

It was on the "news and views" page that one of our best stories was printed. This concerned a flight nurse, Lt. Reba Whittle, who was shot-down over Aachen as her C-47 was going forward to evacuate wounded. We first heard about her from one of the fellows who came to our compound from the hospital at Meiningen, Germany. Then, as other kriegies came to us from the hospital with additional information about her, we ran follow-up stories. Jensen drew a picture of nurse Whittle from descriptions given by those who had seen her and Young wrote a poem to go with the drawing.

Bill Herrick, who went to Meiningen for treatment of a leg injury, met Lt. Whittle and came back to report that she was the nurse he played bridge with on the boat that brought him to England. He said the fellows at the hospital were doing all they could for her but that the Germans wouldn't repatriate her. English flyers gave her the silk lining from their flying boots, with which she made her underthings. She wore men's GI clothing obtained from the Red Cross, and took care of the Allied airmen being treated at the hospital. We wrote about all these things and in reading about her plight, many of the men forgot about their own misfortunes.

One of the most difficult enterprises the *Klarion* undertook was the running of a poll each week on various topics, the results of which appeared on the "news and views" page. Navigator Sam Northcross, formerly associated with Prof. George Gallup and his institute of American Opinion, ran this poll. He had block correspondents circulate through the rooms to obtain answers, which were sometimes hard to get because cynicism ran high in the Compound.

In November 1944, our poll showed that the kreigies thought the war would be over April 1. Which was a good guess for a time when an early end looked doubtful. Another poll showed that an overwhelming majority of the men wanted to join a new veterans organization with no ties to World War I groups. Still another elected Ingrid Bergman "Klim Klan" queen of the West Compound. For the occasion John Calnan made a large pencil drawing of her from a photograph. The "Klim Klan" title came from the powdered milk product contained in Red Cross parcels.

But our most significant poll was run in January 1945, when our food supply was running low because the Germans couldn't get Red Cross parcels to us. Col. Darr H. Alkire, Senior American Officer, wanted to find out if the men would rather spread out the parcels or go on as usual. Ordinarily we received a parcel a week, but for months this had been cut to a half parcel per man. While one-fourth parcels would have assured us of something to eat for twice as long, it would have meant a very lean diet. The *Klarion* reporters ran a poll of the entire compound and had the results to Col. Alkire in slightly over two hours. The men decided, by a wide margin, to stay on half parcels. The Colonel and his staff accepted their decision and we remained on that ration until our sudden move from Sagan a few weeks later.

At the very bottom of "news and views" there was a cartoon strip called "Block-Busters," drawn by Bob Neary, a gunner. Drawn in pencil and colored with water colors, it depicted typical humorous incidents in a kriegie's life. This was one of eight comic strips that ran in the *Klarion*. The oldest strip was "Nita Leigh," drawn by Harmston. Nita was a gal who started out instructing flying cadets and wound up fighting a war on some Pacific island. (We had to keep her out of the European Theater and not make it too obvious that she was fighting the Japs.) Slightly-clad Nita had a stormy career and was the center of much conversation, both pro and con. Harmston also drew "Terry Flieger" (Flieger means flyer in German), a gremlin second lieutenant who was under Satan's orders and responsible for all the planes that were shot down.

Throughout the summer softball season the *Klarion* came out every morning with a small daily, listing games to be played that day, scores and summaries of games played the day before and new standings in our two leagues. Two diamonds were kept busy as long as the sun was up, requiring a reporter to be on the job continuously. Ed Hall and later Calvin Workman, Irwin Miller and Ray Frick did the sports reporting.

To take care of mid-week news during the football season a *Klarion Supplement* was published every Thursday. We continued this for the remainder of our stay at Sagan even though intense cold put an end to outdoor activities during the winter months. Then we had to fill the sports page with features written by the sports experts in our midst. Among them were: Hal Van Every, former Minnesota football great; Bud Elrod, All-American end from Mississippi State; Ray Frink, center and captain of Penn's gridiron team; Lou Zaris, a New Jersey amateur boxing champ.

We ran special editions for such things as the results of a presidential poll conducted in the compound; illustrated reviews of musical shows put on in the theater; and the results of a housing contest, part of a program inaugurated by the *Klarion* to help those who were designing post-war homes. A former architect, Major W. L. Orris, conducted the contest, giving a series of lectures and providing individual aid.

Strange as it may seem, the *Klarion* did carry some ad-

*(Continued on Page 47)*

# AERIAL COMBAT BATTLE HONORS

## Unit Citations of brilliant tactical successes that made Global Victory possible

ILLUSTRATED BY CAPT. P. SANTRY

The latest Distinguished Unit Citations are eloquent testimony to the effectiveness and heroism that figured in the U. S. air campaign against our enemies in all theaters. The awards were made "in the name of the President as public evidence of deserved honor and distinction."

Brief summaries of the actions covered by the citations appear on the next three pages. In most cases the citations acknowledge the contribution of ground echelons in combat achievements.

The Distinguished Unit Citation is an Army award, distinguishable from the Navy Presidential Unit Citation by a separate badge, which is dark blue bordered in gold. When a citation is confirmed by War Department General Orders, all personnel assigned to the organization on the occasion or during the period for which the citation was made are entitled to wear the Distinguished Unit Citation badge as a permanent part of the Uniform.

### 13th Bombardment Squadron (L), 5th Air Force

Bataan had fallen and the Japanese were rapidly overrunning the remaining islands of the Philippines. In order to strike one last remaining blow for the Philippines and stay the advance of the enemy, ten B-25s and three B-17s flew from Charters Towers, Queensland, Australia, to secret bases on Mindanao. Making the long flight over enemy-controlled waters and without adequate navigational aids, the crews landed at Del Monte and Valencia. Strikes against the enemy were begun immediately. Within the next two days, 12-13 April, although subjected to repeated enemy fighter attacks, heavy anti-aircraft fire and without fighter cover, the 13th Bombardment Squadron bombed and destroyed enemy transports, dock areas, rendered airfields unserviceable, destroyed enemy aircraft in the air and on the ground, and strafed enemy troops and warehouses. On 13 April the planes, dangerously overloaded with battle-tested personnel being evacuated, began their return flight to Darwin, Australia. The mission was completed 14 April without the loss of a single plane. This was the last raid

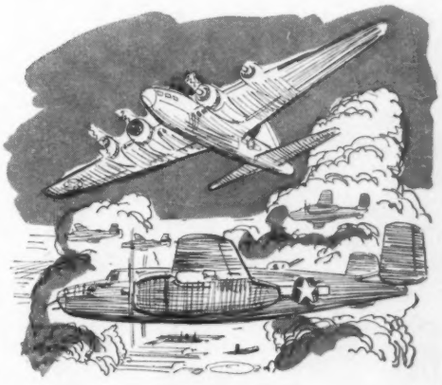
to be made against the Japanese held Philippines until the latter part of 1944 and it aided in delaying the Japanese advance until a decisive blow could be struck.—11-14 April 1942.

### 54th Fighter Group, 11th Air Force

Operating under the most adverse weather conditions and with an assigned strength of only 60 men per squadron, the 54th Fighter Group maintained constant air alerts over our bases in the Aleutian Area and made continuous strafing attacks against the heavily fortified and manned Japanese held Kiska. Throughout these hazardous missions not one aircraft had to make a forced landing due to poor maintenance.—27 May, 4 November 1942.

### 308th Bombardment Group (H), 14th Air Force

Unescorted, fourteen B-24s of the 308th Bombardment Group attacked the dock and warehouse area at Hankow, China, having been deprived of fighter protection by an enemy attack on our fighter base just prior to take-off. Near the target the formation was met by 80 Zero interceptors and within 27 minutes the bombers destroyed 57 enemy fighters, probably destroyed 13 more and damaged two. Although subjected to repeated attacks over the target and an intense anti-aircraft barrage, the Group scored a perfect bomb pattern on the target causing extensive destruction. Direct hits were also scored on a Japanese Naval Headquarters, killing three Japanese Army generals, four colonels and a Navy commander.—21 August 1943.



### 306th Bombardment Group (H), 8th Air Force

Assigned to attack an enemy aircraft assembly plant at Bernberg, in Central Germany, the 306th Bombardment Group encountered weather conditions from the take-off that caused many units to be recalled and other formations to turn back. Without support of a rearward stream of bombers or fighter escort, the 306th continued across 200 miles of enemy territory to the target. In the face of heavy anti-aircraft fire, the Group carried out a highly effective bombing attack on the target, destroying the aircraft assembly sites and buildings. Immediately thereafter the Group was subjected to continuing and overwhelming attacks by ME-109s and FW-190s that persisted until the Dutch coast was reached. All 23 returning B-17s were battle damaged, 20 of major proportions. The Group sustained a loss of 70 officers and men in successfully completing this mission.—22 February 1944.

### 2nd Bombardment Group (H), 15th Air Force

By exceptional effort on the part of ground personnel, battle damage from the previous day was repaired so that the maximum number of planes in the 2nd Bombardment Group could strike the Prufening Aircraft Plant at Regensburg, Germany, on 25 February. Ten B-17s of the Group were assigned the lead position for the other formations. These lead planes were subjected to heavy enemy fighter attacks an hour before target time. Attacks from enemy fighters, armed with 20mm cannon, rockets and

heavy machine-guns, continued for more than an hour and a half during which time more than a hundred German planes attempted to break up the bomber formation. Three heavy bombers were lost to enemy action while nine enemy fighters were destroyed and another probably destroyed. In spite of attacks over the target the bomb pattern was such that the Ober-Traubling Plant was destroyed and the Prufening Aircraft Plant so completely devasted that it never resumed production. This was considered one of the most crucial blows of the war against enemy aircraft production.—25 February 1944.

**384th Bombardment Group (H),**
**8th Air Force**

Flying the lead position for the Wing, the 384th Bombardment Group proceeded to the target, an enemy aircraft factory and airfield near Oberpfaffenhofen, Germany. The Group was continually subjected to heavy fighter attacks, beginning

near Paris and continuing until after the target had been bombed. So determined was the enemy to destroy the lead planes that attacks were made with elements of 10 abreast and head-on. Ten B-17s and 70 officers and men were lost to enemy action while the Group destroyed 12, probably destroyed nine and damaged nine ME-109s and FW-190s. The bomb pattern was highly concentrated and caused extensive damage to enemy aircraft installations and plants.—24 April 1944.

**308th Bombardment Group (H),**
**14th Air Force**

Often operating from bases behind enemy lines, evacuating before the advance of the Japanese and flying much of their bombs and gasoline over the "Hump" into China, the 308th Bombardment Group carried out missions of interdiction against Japanese water supply lines. In less than a year, this Group sank or damaged nearly three-quarters of a million tons of Japanese shipping in the East and South China Seas, the Straits of Formosa and the Gulf of Tonkin. They sank 107 merchant vessels and twelve enemy naval vessels, including three cruisers and seven destroyers. They probably sank 29 vessels and damaged 48 for a total of 427,252 tons of shipping sunk, 102,765 tons probably sunk and 187,045 tons damaged. To effect economy in operations in air-supplied China, the Group often bombed armed vessels and convoys from an altitude of 400 feet subjecting themselves and their slow moving heavy bombers to the intense fire of the enemy ships.—24 May 1944-28 April 1945.

**23rd Fighter Group, 14th Air Force**

To halt the advance of 70,000 crack Japanese troops down the Siang River Valley in Hunan Province, China, which was aimed at the capture of the vital communication center of Hengyang, the 23rd Fighter Group was ordered to carry out strafing and bombing attacks. Adverse weather conditions made it necessary for the Group to fly at extremely low altitudes subjecting themselves to concentrated anti-aircraft fire and heavy ground fire. The Group's pilots flew 538 bombing and strafing sorties in eight days during which time they killed 1,640 Japanese troops, 780 cavalry and pack horses. By striking at enemy supply lines directly behind the enemy 377 small boats were destroyed, 372 more damaged, 15 large river boats sunk and eight damaged. They destroyed 91 motor trucks and damaged 50. Three heavily armed gunboats were sunk and two others damaged. More than 100 compound storage centers were destroyed or damaged and seven enemy planes were shot down, seven others were probably destroyed and eight others damaged. The Group accomplished these missions without the loss of a single American aircraft.—17-25 June 1944.

**344th Bombardment Group (M),**
**9th Air Force**

To help prepare the way for an Allied offensive on the Cherbourg Peninsula the 344th was assigned the mission of destroying a key bridge over the Loire River near Tours which was being used to bring enemy reinforcements to the St. Lo sector. Intense anti-aircraft fire damaged 31 of the planes and dispersed the lead flight but the bridge was destroyed. On the following two days the Group attacked enemy troop concentrations facing the allied troops in the St. Lo area, severed a railroad viaduct at Maintenon and destroyed a large supply of fuel and ammunition. These strikes made it possible for the allied troops to advance with minimum losses.—24-26 July 1944.

**394th Bombardment Group (M),**
**9th Air Force**

Between 7-9 August the 394th Bombardment Group destroyed five vital and heavily defended enemy targets in Northern France. On 7 August the Group destroyed the railroad bridge at Nogent sur Seine in the face of heavy anti-aircraft fire. Three planes were lost and 12 others received battle damage but through the efforts of the ground crews a full strength attack was made against an ammunition dump that afternoon. On the eighth of August despite heavy and accurate anti-aircraft fire the Group destroyed the railroad bridge at Nanteuile on the Marne River. Thirty aircraft were damaged on this mission but the ground crews made it possible for the Group to strike in full force the railroad bridge at Campeigne, an important enemy supply link. That afternoon the Group destroyed the railroad bridge at L'Isle Adam.—7-9 August 1944.

**490th Bombardment Squadron (M),**
**10th Air Force**

Interdiction of Japanese supply lines was the mission of the 490th Bombardment Squadron from 1 October to 31 December 1944. During this period the 490th destroyed 68 bridges and attacked other lines of communication. So effective were the attacks that many Japanese taken prisoner were half-starved. This mission of interdiction was accomplished under extremely adverse tropical weather conditions, over jungle terrain and repeated enemy attacks.

**40th Fighter Squadron,**
**5th Air Force**

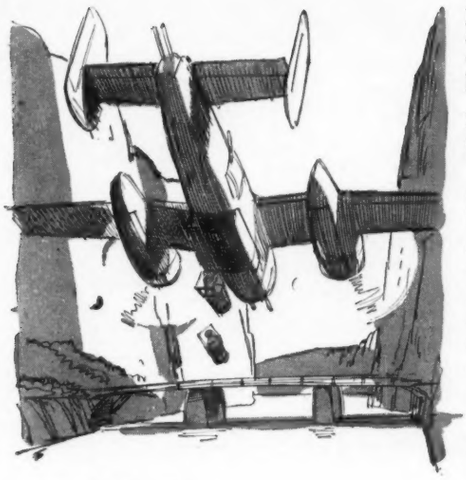
On the 10th and 14th of October the 40th Fighter Squadron using P-47s, escorted bombers from Morotai to Balikpapan, flying a total of 1,650 miles on each mission. In two engagements with enemy fighter planes on the missions the 40th destroyed 31 of the enemy aircraft and probably three others. Due to fighter protection the heavy bombers were able to damage the Japanese oil refineries and storage installations so severely that production of oil and gasoline for enemy tactical uses was greatly curtailed. 10 and 14 October 1944.

**41st Fighter Squadron,**
**5th Air Force**

Same citation as for 40th Fighter Squadron.—10 and 14 October 1944.

**49th Fighter Group,**
**5th Air Force**

The 49th Fighter Group arrived at Leyte one week after the initial assault. Operating from a single airdrome on the island, the 49th flew 1,987 sorties the first month of operations, destroying 100 hostile aircraft in aerial combat. During the period covered by this citation they flew 2,468 sorties, destroyed 132 enemy planes in the air and probably destroyed six others. This Group destroyed approximately 30% of all enemy aircraft encountered. Throughout this period of operation the ground crews serviced and repaired the P-38s under enemy bombing and strafing raids.—27 October-7 December 1944.



**370th Fighter Group,**
**9th Air Force**

Operating under extremely adverse weather conditions and subjected to intense anti-aircraft and small arms fire, the 370th Fighter Group destroyed a heavily defended enemy strong point at Bergstein, Germany, which was obstructing the advance of allied infantry troops. The entire village was set afire and heavy casualties were inflicted on enemy troops.—2 December 1944.

**341st Bombardment Group (M),**
**14th Air Force**

"Glip Bombing" was a technique developed and employed by the 341st Bombardment Group to destroy Japanese bridges and disrupt their supply lines with a minimum bomb tonnage. This style of bombing employed a triple change in bombing level at low altitudes as an exclusive maneuver over heavily defended channelled approaches to the target. This technique yielded such accuracy that the tonnage of bombs expended per bridge destroyed, reached a new, record low of 7.75 tons per bridge. Despite the fact that bridges in French-Indo China were generally located in gorges and valleys with the approach to the target usually restricted to narrow lanes heavily guarded by enemy defensive fire, the Group destroyed 21 major bridges and damaged 17 in twenty-three missions. On two missions, 27 February and 5 March, the Group destroyed 10 high priority bridges and damaged two, under enemy fire, with the expenditure of 385 bomb tons per bridge. 11 December 1944 to 12 March 1945.

**498th Bombardment Group (VH),**
**20th Air Force**

To bomb one of the two largest airplane engine producing plants in Japan, the 498th Bombardment Group flew relatively untested aircraft 3,000 miles over enemy controlled seas where no adequate rescue patrol was established. At the time of the mission no emergency bases existed, fighter protection was unavailable and adequate weather forecasts lacking in the face of the most adverse and rapidly changing weather encountered in any theater. The problem of navigation was rendered more difficult by a wind in excess of 200 miles per hour. The Group withstood a total of 107 fighter attacks, destroying three enemy planes, probably destroying eight others and damaging ten. The target was bombed by radar with excellent results. Only one B-29 was lost and ten damaged—13 December 1944.

**397th Bombardment Group (M),**
**9th Air Force**

In action at Eller, Germany, B-26s of this Group, completely destroyed a railroad bridge that was the enemy's vital supply link across the Moselle River. Subjected to intense anti-aircraft fire and attacks by 25 ME-109s, the unescorted bombers destroyed four enemy planes, probably destroyed three, extensively damaged five and forced the others to withdraw. Only five B-26s escaped battle damage, so intense was the enemy's defense of this installation.—23 December 1944.

**323rd Bombardment Group (M),**
**9th Air Force**

During this period the 323rd delivered six highly effective strikes against vital and heavily defended enemy supply and transportation installations. By great effort the ground crews repaired all battle damage so full-scale attacks could be continued. This series of attacks effectively crippled the German supply system in the sector.—24-27 December 1944.

**417th Bombardment Group (L),**
**5th Air Force**

Flying A-20s, the 417th cleared the way for the initial American invasion of Luzon by destroying in four days 31 enemy vessels, naval escorts, transports and freighters which totaled over 65,000 tons. During this period they also damaged six vessels totaling over 16,000 tons and probably sank five vessels totaling over 11,000 tons. This destruction of the enemy forces concentrating on the reinforcement of Luzon, was accomplished in the face of intense and concentrated anti-aircraft fire directed against the low flying planes. Maintenance of the A-20s was accomplished by the ground crews working under the most adverse conditions of enemy attacks and inadequate equipment.—30 December 1944-2 January 1945.

**110th Tactical Reconnaissance Squadron,**
**5th Air Force**

A Japanese naval task force, consisting of a heavy cruiser, a light cruiser, and at least six destroyers, was approaching the newly established American base on Mindoro Island. In order to bring the greatest amount of air power possible against this threatening force, 20 pilots volunteered to fly their P-40s with other units. Although untrained for night fighting and not equipped for night attacks, the pilots of the 110th were over the target from early evening until after midnight. Often concentrating on those ships with the most flak, the P-40s dive-bombed and strafed the naval force. Darkness prevented an accurate count of the destruction caused but the attacking naval force was routed. Of the 20 pilots in the 110th participating, four were reported missing in action, two were injured. Five aircraft were lost and three damaged by enemy anti-aircraft fire. The planes were serviced by ground crews under constant enemy air attacks—26 December 1944.

**58th Fighter Group,**
**5th Air Force**

Flying P-47s, the 58th Fighter Group strafed a Japanese naval task force attempting to strike the newly established American base on Mindoro Island. When an enemy air attack made it impossible to load their planes with bombs, the pilots were given the option of refusing the mission but all volunteered although a strafing mission on naval vessels was almost suicidal. By their mast high strafing attacks they set several destroyers and a cruiser afire and killed many of the Japanese gun crewmen. Due to lack of fuel several pilots were forced to ditch their planes in the sea.—26 December 1944.

**8th Fighter Group,**
**5th Air Force**

Attacking at night, the 8th Fighter Group P-38s delivered a strafing to a Japanese naval task force that left one destroyer sunk and two damaged while the others were halted until medium and light bombers arrived to sink them. By this action the Japanese were prevented from destroying the American base on Mindoro.—26 December 1944.

**497th Bombardment Group (VH),**
**20th Air Force**

The 497th Bombardment Group prepared to bomb the heavily defended Nakajima Aircraft Factory near Tokyo. This entailed a flight of 3,000 miles over enemy controlled seas in relatively untested aircraft. Adequate target information was lacking as well as emergency bases, rescue patrols and weather data. Winds in excess of 200 miles per hour further complicated the navigation over the open sea. The mission was flown at 26,000 feet altitude where the temperature averaged a minus 55 degrees centigrade. Without fighter protection, the bombers were subjected to 544 enemy fighter attacks. Outnumbered by more than ten times their number the bombers continued their mission. Forced to by-pass the first target because of undercast they bombed the alternate target, a well defended industrial area at Hamamatsu, with excellent results. During the flight the 497th destroyed 34 enemy planes, probably destroyed nine and seriously damaged 12.—27 January 1944. ☆

# GUIDED MISSILES

## AAF forms 1st Experimental Group to work out tactics, technique of guided missiles operations

"If we fail to keep not merely abreast but ahead of technological development, we needn't bother to train any force and we needn't make plans for an emergency expansion. We shall be totally defeated before any expansion could take place!"

Thus did General of the Army Henry H. Arnold emphasize to Congress, before he relinquished command of the AAF, the importance of keeping an ably staffed, adequately financed and properly equipped research program for national security.

Among the observable trends in the forging of future weapons, General Arnold predicted an extraordinary development of guided missiles and refinement of their controls so that exact hits may be made on targets a mile square or less in any part of the world, from any part of the world.

Guided missiles carrying atomic bomb war-heads, destructive beyond the wildest nightmares of imagination, are not in the realm of fantasy, but loom darkly on the horizon as a probable assault weapon of another World War should mankind fail to resolve his differences amicably or should another Hitlerian tyrant arise again.

Nearly two years ago the Germans startled the world by launching their V-2 rocket fire against England, France and other areas occupied by Allied armies. These rockets whistled through space at meteoric speed, 3,500 miles an hour. It was a sensational engineering feat. It astonished laymen and startled our own scientists and engineers. Fortunately, the Germans were unable to control it accurately enough to hit any chosen target. But this Nazi "surprise" gave tremendous impetus to rocket research and development in this country. At Wright Field, as well as elsewhere, experts knuckled down to the task of developing better missiles and countermeasures.

In line with General Arnold's observation the Army Air Forces has not been idle. Under headquarters, AAF, the Guided Missiles Division has been active in this field, and now the 1st Experimental Guided Missiles Group has been organized to develop tactics and techniques of missile operations. Its headquarters are at Eglin Field, Florida, under the command of Col. Harvey T. Alness, who formerly commanded the 7th Bomb Group in India. The 1st Experimental Group's table of organization calls for 130 officers and 715 enlisted men, selected on the basis of their knowledge of jet propulsion, radar, television, infra-red, aerodynamics, control systems and other scientific devices. The group comes under the Air Forces Center, a technical, experimental and testing organization. It will not, however, participate in the origination or technical development of the missiles. Its responsibility lies in developing their tactical use in combat.

The first guided missile was a pilotless aircraft with a torpedo fuselage. It was developed in 1918 and completed after the first World War ended. In 1940 ATSC began the development of pilotless aircraft as actual weapons, and in 1941 and 1942 it launched a vast program to develop remote control glide bombs and vertical bombs.

In actual combat against World War II enemies the AAF used the pre-set glide bomb (GB-1), the remote control by television glide bomb (GB-4), the Azon and jet bombs. Also, war-weary B-17s laden with 20,000 pounds of explosives were rigged up and sent pilotless against the enemy. These charges were the heaviest ever turned against the enemy from the air.

A group from the Engineering Division at Wright Field was sent to Europe in February 1943 to use glide bombs against Germany. On one mission 116 GB-1 glide bombs were dropped from 58 B-17s with Cologne as the target. The release point was more than 20 miles from the target, and all aircraft were able to turn away beyond the range of antiaircraft fire. A large percentage of these missiles hit their target.

The Azon bomb, a standard 1,000 pound M-65 bomb with a special tail that permitted it to be steered left or right by radio controls from the aircraft releasing it, was used by Col. Alness' 7th Bomb Group. These bombs were directed in the spring of 1945 against bridges along the Burma-Siam railway which the Japanese had built to supply the Burma Armies.

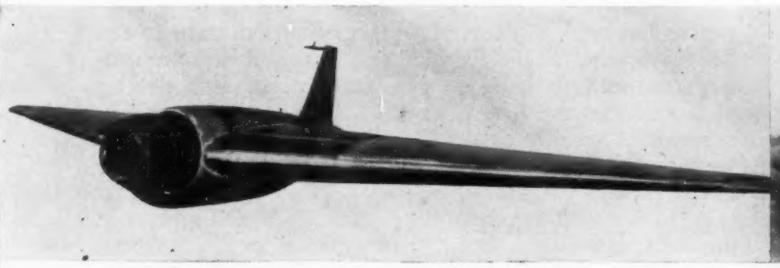
On one mission last April, 40 Liberators ranged up and down the railway a distance of 200 miles, destroying 30 bridges and damaging six more. The over-all use of Azon bombs against bridges resulted in one bridge destroyed for each four sorties. They were far more accurate than non-guided bombs.

All these missiles, which were of sub-sonic nature, are now considered obsolete for the future push-button warfare at supersonic speeds. They did, however, provide step-

### *TEST RADAR ON V-2s*

*Brig. Gen. William L. Richardson, Chief of the Air Staff's Guided Missiles Division, reports the AAF, in its experiments to work out defenses against rockets, will fire non-explosive German V-2s over a New Mexico Proving Ground. Air Force and Signal Corps technicians will attempt to detect and trace their 3,000 mph stratospheric flight by radar devices, including equipment used recently to establish contact with the moon.*

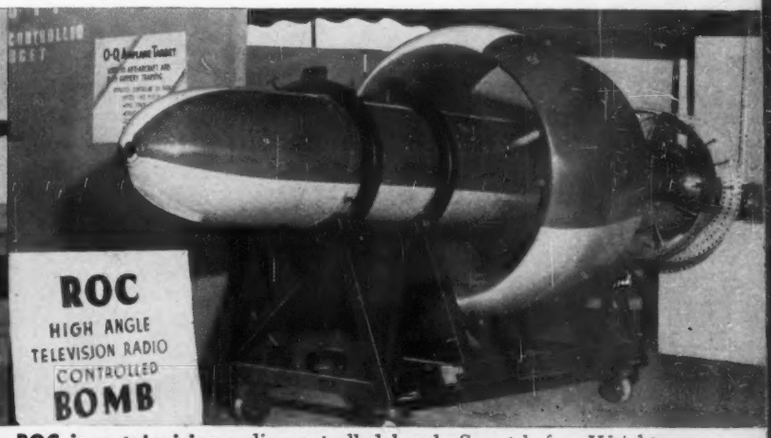
**Flying wing type,** JB-1, ground launched with pre-set control, carried two 2,000 pound bombs 200 miles. Powered by two turbo-jet engines in flight, takeoff was accomplished from a 400 foot level ramp with five 10,500 pound thrust rockets. Only one JB-1 was built and tested.



**Replacing JB-1,** above missile, JB-10, hit 400 mph with American copy of V-1 engine. Warhead carried 3,400 pounds of explosive.

**This American copy** of German V-1 "Buzz Bomb" was termed the JB-2. Remote control was developed for steering its 150 mile flight.

**Launched from** a conventional airplane, JB-3 was aimed at German rockets. Proximity fuse detonated bomb, destroying V-1 in flight.




**ROC is a television** radio controlled bomb. Secret before Wright Fair, this 1,000-pounder, with circular airfoil, scans its target.

ping-stones for the research, development and operational agencies of the AAF.

Experiments are now being conducted with several types of missiles. They fall into four groups, air-to-air, air-to-ground, ground-to-air and ground-to-ground. The German V-2 rocket was an example of the ground-to-ground type.

A further development of the Azon bomb was completed and ready for operational use just before the war ended. It is known as the "Razon" bomb, controllable in azimuth and range. The abrupt end of the Japanese conflict prevented its use in combat. Other guided missile projects include "Felix," a bomb attracted to heat; and the "Roc," a standard 1,000 pound bomb equipped with television to scan the target and relay vital information back to the aircraft. Particularly interesting is the fact that the "Roc" utilizes a circular airfoil. Still others equally fantastic in capability are now under development and consideration.

Col. Alness began drawing up plans for the First Experimental Group late in December. All men accepted for the original unit will be combat veterans as well as technicians. Col. Alness has been on active commissioned duty with the Air Forces since 1935 when he joined the 7th Bomb Group. After three years with that unit he went to Hawaii where he remained two years before returning to the United States. He served at several Air Force stations before assignment to Headquarters, AAF. In October 1944, he rejoined his old group in India, which he commanded until he returned to Washington last September.

Among the objectives of the First Experimental Group outlined under the present program are:

- Development of tactics and techniques of guided missile operations. The unit will receive the missiles after they have been designed, tested, and perfected.
- Development of training requirements.
- Training of individuals.
- Demonstration of guided missiles in the AAF program. ☆

# BATAAN TO MIAMI

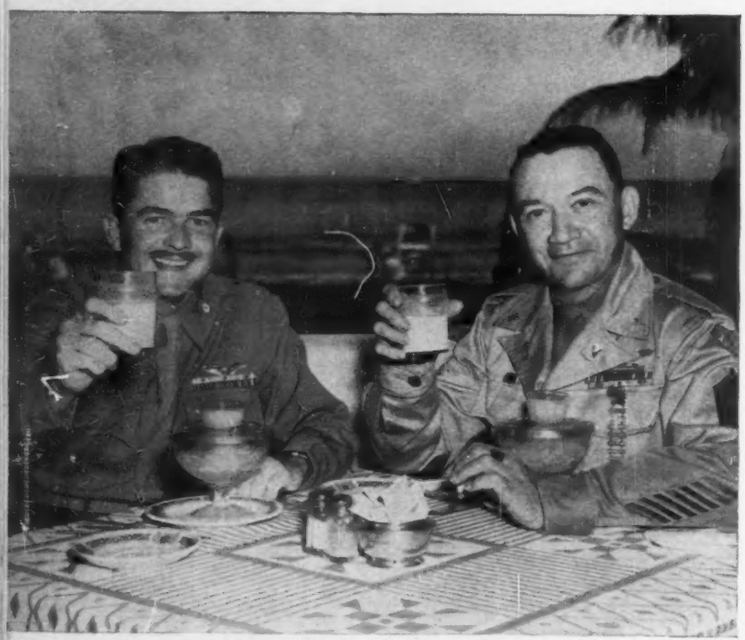
PHOTOGRAPHS BY SGT. RAYMOND MASCALI

From the bleak confines of a Japanese prison camp to the gay beaches of the Florida coast is a great distance geographically. It is an even greater distance in the realm of morale. General Arnold had this in mind when he established a project at Miami Beach to provide recuperative vacations for AAF personnel who had been prisoners of war in the Pacific.

A two weeks' vacation in Florida is offered not only prisoners, but also evadees, the men who for the last few years lived a dangerous hide-out existence with friendly natives or guerillas on hot little Pacific islands. They, along with survivors of Japanese hell ships, slave-labor camps and the Bataan death march, can now choose any fortnight during their three-month furlough following release from hospital observation for a visit to Miami.

The relatives of these men had suffered, too, during those years of uncertainty. So each of the military guests

*(Continued on Page 48)*



**Drinking** milk at Miami Beach Lt. Bird, Lakeport, Ga. and M/Sgt. Nabers, Desdemona, Tex. relax. Captured on Bataan in 1942 they remained together on the Death March and in Jap prison camps.

**Racing** at Hialeah brings out former Jap prisoner Lt. Padgett and his wife. Shot down on his 13th mission he is skeptical.

**Swimming** with his wife is Lt. Zack's way of enjoying Miami Beach.

**Playing** tennis is relaxation for Lt. Thomas of Kentucky.

**Sightseeing** from the rigging Cpl. Kutchback and wife watch fishing boats on Biscayne Bay. Held by Japs, he did slave labor for 42 mos.

**Fishing** in the Gulf Stream Capt. Duffy and his wife caught this huge wahoo. Duffy lived with Malayan guerillas for eight months.

**Honeymooning** keeps Lt. Manella busy during Miami vacation.

**Relaxing** with his parents M/Sgt. Engles hopes to gain back 75 lbs.

## an editorial

# A Separate Air Force?

Slips of pens and interpolations between the lines are continuing to confuse the American people. Every day some city editor trims a wordy reporter's story just enough to make it misleading.

Serious misunderstanding has come from a recent article in the nation's newspapers. This was phrased to imply that not only the War Department but General Arnold were opposed to a separate Air Force. Of course, nothing could have been more erroneous—nothing could have twisted the truth more effectively.

The article in question has the following background: On December 11, 1945, Congressmen May and Vinson, Chairmen of the Military and Naval Affairs Committees respectively—submitted identical bills henceforth known as the May-Vinson Bills for the establishment of a separate Air Force. The May-Vinson Bills were referred to the Committee on Expenditures in the Executive Departments under Congressman Carter Manasco. Then, as is customary, Mr. Manasco wrote letters to the Secretary of War, the Chief of Staff of the Army, and the Chief of Army Air Forces requesting their detailed comments.

As a result of the numerous conferences that followed, the Secretary of War, General Eisenhower and General Arnold agreed that the proposed Bill could not accomplish completely our urgent national security requirements. They concurred in these facts: That Air Power is co-equal with land and sea power in its responsibility for, and contribution to military success in battle; that the war just ended had demonstrated the importance of unity of direction; and that a single reply should be submitted to Congressman Carter Manasco as representing the joint views of the three upon the May-Vinson Bills.

This letter signed by the Acting Secretary of War is, of course, the one referred to in the misleading newspaper article. In that item the clever screening of facts or an editor's overcutting caused the inference that General Arnold was opposed to a separate Air Force. The letter stated that in his recent message to the Congress, the President strongly recommended the enactment of legislature for a single department of national defense to administer the Army, the Navy and the Air Forces as three co-equal branches. This would establish an organizational structure providing unified direction below the President and thereby assuring coordination and efficiency for our armed forces. It would give air power a co-equal status with land and sea forces, and it would achieve maximum economy with more security for less taxes.

In determining a plan to give air power co-equal status with land and sea forces, two courses are open. One is the method in the proposed legislation, namely, by provision for three executive departments for the armed forces, one of which would be the Department of the Air Forces. The other is the single department for all the armed forces. It could not be accomplished with the two departments we have at the present.

The Acting Secretary's letter continued that the War Department was of the opinion that all three of the objectives of the President must be promptly achieved in the organization for military security. The proposed May-Vinson Bill as a squeeze play would accomplish only one, that of autonomy for air.

General Arnold concurred in the recommendation that of the two courses of action—THE ESTABLISHMENT OF A SINGLE DEPARTMENT was infinitely better for national security than the three department system. A single department for all three co-equal arms of our military forces is the logical, workable answer. This is unification, but it is also autonomy for air—A SEPARATE AIR FORCE.

Thus General Arnold did agree to the single department, but there is much more to it than was allowed to meet the eye in the news item. He is most certainly unequivocally for a separate air force now as he has been through all of his service to this country. But he is just as certain that the future of this nation's security depends on the teamwork of ALL the services functioning under a single command. Our future as a nation cannot depend alone upon either land thinking, sea thinking, or air thinking, but it must be united American thinking. Future security makes it imperative that we have autonomy for air. It is obvious that the air arm should work in perfect coordination with the forces of land and sea as co-equals under one commander: an overall commander who is not bound by any overzealous concept as a mere landsman, seaman, or an airman, but as an American.

Carl Spaatz

CARL SPAATZ
Commanding General
Army Air Forces

News and Views around the World

# CROSS COUNTRY

V-2 at Wright Field—Page 34

## Bong Memorial Foundation

Fifty Aeronautical Engineering Scholarships are being made available annually to the nation's top high school graduates by the recently formed Richard Ira Bong Memorial Foundation.

Selection of the 50 graduates will probably be made by committees. One student coming from each of the 48 states and one each from the District of Columbia and Alaska. Winners will be granted $1,000 a year for four years to pursue courses at whatever recognized colleges or universities they may select.

The erection of an educational and recreational building in Poplar, Wis., where Major Bong is buried, is also planned by the foundation. It will be a museum of allied and enemy aircraft and other equipment of historical interest from the recent war.

The Bong Memorial Foundation was conceived by friends of America's top-scoring fighter pilot, who bagged a total of 40 Japanese planes and was later killed while testing an army jet plane. Men and women over the entire nation have joined this movement which not only honors the memory of Major Bong but also commemorates all American flyers of World War II who paid with their lives.

Eddie Rickenbacker is honorary national chairman, General H. H. Arnold and Jimmy Stewart, honorary national vice-chairmen of the non-profit corporation. Contributions will furnish the money for both projects of the Foundation and will be received by the Richard Ira Bong Memorial Foundation, Inc., Poplar, Wis.

## So You Want a Job

Separation doesn't separate Army Air Forces interest in the post war future of its veterans. Working with governmental, civic and private agencies the AAF is ready and willing to help them find a job.

A letter to Chief, Personnel Services Division, Room 4E160, Pentagon Building, Washington 25, D. C., will start the ball rolling on a job for you. That letter should include your name, rank and serial number, address and telephone number; a statement as to marital status, number of dependents, present occupation, present location and location preferences; some information about your duties in the Army Air Forces and what you did before entering the service. If you have any job preferences it would be well to mention them along with any special qualifications you may have.

In the capacity of a former employer the AAF is well aware of the skills and abilities you picked up in service and it will be able to guide those skills into fields where they will do you the most good.

## Hand Made Fire Wagon

All the ingenuity of the Air Forces isn't confined to the men who work with planes. At Headquarters, U. S. Air Forces in Europe, the No. 1 fire wagon of the 89th Station Compliment Sqdn. (Sp.) is a

*S/Sgt. Joseph Ruby and Cpl. Jake Kahanovitz ride a unique hand made fire wagon.*

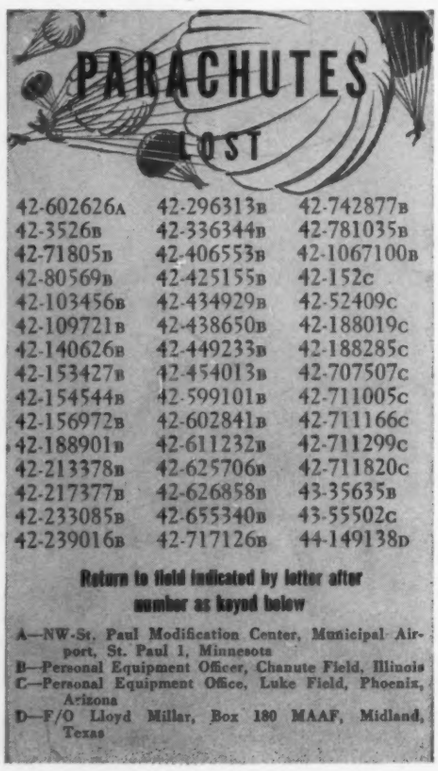
hand made job put together by former T/Sgt. Paul DeVecchio, of Jackson, Calif., and former Sgt. Hughlet Ethridge, of Moorecraft, Wyo. Both are now civilians.

While in France as members of the U. S. Strategic Air Forces, predecessor to USAFE, the men scrounged a personnel carrier, some angle iron, aluminum, nuts and bolts and a lot of other gadgets and put together a fire truck that any veteran smoke eater would be proud to drive down main street.

The angle iron was welded and bolted as framework so that it can easily be removed and the truck reverted to a ton and a half personnel carrier. Sheet aluminum was cut and riveted to form the shape.

The truck is equipped with an English Beresford Stork pump powered by a V-8 motor; a 200-gallon booster tank; 1,300 feet of two-and-a-half-inch English canvas hose; a 32-foot extension ladder; two 15-pound and two four-pound carbon dioxide tanks; two two-gallon and two one-quart carbon tetrachloride extinguishers; 30 feet of hard suction hose and 20 feet of soft suction hose; a stand pipe for use of German hydrants; one foam-making branch, American type, and 30 gallons of foam-making compound.

Cruising speed of the truck is 45 mph, but given a long stretch of flat road, she'll do 60.




## More Room to Fly

There should be more flying room in the sky after 1 June when the Interdepartmental Air Traffic Control Board plans to abolish all danger and caution areas presently established in the Continental United States.

A danger area is an area where a visible hazard to flying aircraft exists and where no plane may fly without the specific authority of the using agency. A caution area possesses a visible hazard and should be avoided if possible.

## AAF Separation Centers Close

With its war peak of nearly two and a half million men and women reduced to about 900,000, the AAF has closed its Separation Centers. In the future personnel will be discharged by the ASF.

Air Force centers handled only those persons stationed in the Continental limits of the United States, discharging more than 689,000 officers and enlisted men and women in five months. High point in the AAF separation program was the discharge of nearly 11,000 personnel in one day.

The geographical location of the ASF Centers will enable personnel to be discharged with a considerable saving of transportation costs.

## More Fruit Salad

The War Department has authorized a myrtle green and white Army Commendation Ribbon to be worn by individuals who have received a letter of commendation from or in the name of major general or officer of higher rank. Those who have received such letters prior to 1 January 1946 may obtain authority to wear the commendation ribbon by making application to the agency or office of origin, theater commander, major command (AAF, AGF, ASF), or the Adjutant General. Although only one such award may be made while an individual is on one duty assignment, oak leaf clusters may be awarded for subsequent performances of meritorious service.

## Test Your "Gem" Free

If you bought a "gem" in some foreign country, you are probably wondering who got "gypped." To help servicemen determine the value and genuineness of their stones, the registered jewelers of the American Gem Society will test yours free.

All you have to do, if in uniform, is to take your "gem" to any registered jeweler of the American Gem Society. If you are in civvies, just present your discharge or terminal leave papers.

## East Is East

In last October's issue, Lt. Col. John C. Habecker described the high-altitude, high-speed bombing and strafing of his 528th Fighter Squadron in Burma. Taking exception to such attack methods, Lt. Col. Ralph C. Jenkins offers the following experiences of his European-based 510th Fighter Squadron:

"It was our experience that excessive speed both in dive-bombing and in strafing was a great disadvantage. The difficulty of high-speed attacks results from the high pressure exerted on the control surfaces making the aircraft very difficult to maneuver and to make minor changes in sighting. Furthermore, the effectiveness of ground strafing is in proportion to the concentration of bullets that fall in vital areas. We learned that strafing speeds in excess of 300 mph did not put us in range for a long enough interval to produce this lethal concentration. Lastly, the German army and air force was extremely clever in the art of camouflage, and I presume that the Japanese were similarly artistic in this.

"In 17 months of fighter-bomber work in Europe we used 5,000 feet as an armed reconnaissance base altitude and as a strafing altitude for dive bombing. Strafing passes generally were initiated from an altitude of 1,500 to 3,000 feet. This seemingly low altitude for strafing was necessary for the squadron leader to pick up a maximum number of targets of opportunity.

"We started our air campaign in Europe with an idea similar to Colonel Habecker's but found that it was impossible to pick up camouflage targets from altitudes in excess of those just outlined.

"Dive bomb runs made from a high altitude were far less accurate than those begun from our conventional 5,000 altitude. Fighter-bomber targets were generally assigned by area, leaving the initiative up to the squadron leader who could attack any target of opportunity he chose, based upon a priority set by a higher command. In most parts of Europe in which we operated targets were so numerous that it was an SOP to minimize attacking targets heavily defended by anti-aircraft when similar targets a few miles away could be attacked without opposition.

"It was also our experience that light antiaircraft, that is, 40 millimeter weapons down to the .30 caliber type, caused our greatest losses with almost no loss to heavy, 88 or 105 millimeter guns.

"I will concede that high speed strafing reduces the effectiveness of antiaircraft opposition but extremely high speed attacks cannot give the proper ground support that our ground armies ask for. For that reason missions requested by combat divisions that involve attacking in face of intense anti-aircraft fire were made in the same manner as if no antiaircraft fire existed The best example of the low speed attack is in the story of how our squadron assisted in repelling a German tank led counter-attack.

"Late one afternoon in September, 1944, our squadron was out on a direct support

# QUESTIONS

## on Policy and Procedure

**Q.** May leave that was granted prior to 22 May 1945 for the purpose of recuperation, rehabilitation and recovery, and charged to accrued leave, be converted to temporary duty?
**A.** *No. The War Department has ruled that a directive to major commands concerned, dated 22 May 1945, which authorized temporary duty for RRR of essential personnel reassigned within the United States from overseas commands, is not retroactive.*

**Q.** If a move is made at Government expense, what are the rates of pay for dependents of military personnel in lieu of transportation?
**A.** *Four cents a mile for dependents 12 years of age or over and 2 cents a mile for dependents between 5 and 12 years of age. This applies only to land travel. (Sec III, WD Cir 360, 1945).*

**Q.** May an officer who has indicated his desire to return to civilian life attend a service school?
**A.** *No. AAF Ltr 50-156, dated 30 November 1945, provides that "in the future, only officers of the Regular Army or officers who have indicated in writing their willingness to remain on extended active duty until 30 June 1947, or for the duration of the emergency plus six (6) months, whichever occurs first, will be eligible to attend any school set up by directives from Headquarters, AAF: any War Department school authorizing attendance by AAF officers, e. g., AG Schools, Command and General Staff School, Army Industrial College, etc., or Navy Department schools authorizing attendance of AAF officers. This prerequisite is in addition to all other requirements for eligibility."*

**Q.** Who may reduce noncommissioned officers without prejudice?
**A.** *No reduction in noncommissioned officer grade will be made without prejudice, except at the written request of the enlisted man, or by authority of the War Department. Under such circumstances only, the authority competent to appoint may reduce a noncommissioned officer without prejudice, and may immediately reappoint him in a grade lower than the grade from which reduced, whether or not a vacancy exists therein. A noncommissioned officer so reduced and reappointed may, if excess in grade, be carried as excess in such grade until absorbed. A noncommissioned officer so reduced from a temporary grade will be reappointed to a grade not lower than his permanent grade. (Par 3f, AR 615-5, C8, 29 Oct. 1945.)*

**Q.** Are military personnel authorized to wear foreign aviation badges?
**A.** *Yes. Foreign aviation badges are worn immediately above the upper right pocket of the service coat and immediately above the right pocket of the service shirt when worn as an outer garment and above the Distinguished Unit Badge. (AR 600-40, 31 March 1944, as amended.)*

**Q.** If an officer's terminal leave orders are revoked, is he entitled to mileage for travel performed under such orders?
**A.** *No. Where orders placed an officer on terminal leave and were revoked prior to the expiration of such leave, any travel performed pursuant to such orders was incident to leave and the officer is not entitled to mileage therefore. (24 Comp. Gen. 776. Distinguished. B-5/767, 3 October 1945.)*

**Q.** How are refunds obtained on an unused portion of a round-trip furlough fare ticket?
**A.** *Application for any desired refund must be made by the person concerned directly to the passenger traffic office of the carrier issuing the ticket. (Par 11.1a (5), AR 55-120, C 15, 9 Nov. 45.)*

**Q.** Does enlistment or reenlistment mean the loss of unused rehabilitation, recuperation and recovery temporary duty.
**A.** *No. In instances where recovered personnel enlist or reenlist in the Regular Army under provisions of current War Department directives, such enlistment or reenlistment will not act to terminate or cancel unused rehabilitation, recuperation and recovery temporary duty or other special privileges due such personnel. (Sec II, WD Cir 350, 1945.)*

**Q.** Is a bronze star authorized for wear on the Victory Ribbon for service in World War II?
**A.** *No. Regulations governing award of the Victory Ribbon are contained in Sec VIII, WD Cir 326, 1945, as amended by Sec IX, WD Cir 345, 1945.*

# NEW BOOKS

### WAR

AIR COMMANDO DOC. *R. C. Page.* The story of the Army's secret "Project 9" in the India-Burma-China Theater N. Y. ACKERMAN, 1945.

ARNHEM LIFT: DIARY OF A GLIDER PILOT. *Louis E. Hagen.* First-hand account of the glider operations at Arnhem in September, 1944. N. Y., FARRAR & RINEHART, 1945.

WELL DONE! AN AIRCRAFT CARRIER IN BATTLE ACTION. *Morris Markey.* Air action from the carrier Essex in the campaign for the Marianas. N. Y., APPLETON-CENTURY, 1945.

WORLD WAR II—A CONCISE HISTORY. *Dr. Roger W. Shugg* and *Major H. A. DeWeerd.* Covers every phase of the war from the uneasy peace of 1919 and the almost forgotten bombing of Corfu in 1923, to the signing of the Japanese surrender document. THE INFANTRY JOURNAL PRESS, WASHINGTON, 1946.

### POST-WAR

ATOMIC ENERGY IN WAR AND PEACE. *G. G. Hawley* and *S. W. Liefson.* Brief essential facts on the use of atomic energy and the atomic bomb project. N. Y., REINHOLD, 1945.

YOUR FUTURE IN AVIATION. *J. F. Henry.* Job opportunities in the air industry of today and tomorrow. N. Y., PRENTICE-HALL, 1945.

### TECHNICAL

AERIAL NAVIGATION. *H. E. Benham.* A simple presentation of the underlying theory, with practical instruction in modern techniques of navigation by air. N. Y., WILEY, 1945.

### YEARBOOKS AND HANDBOOKS

AERONAUTICAL ENGINEERING CATALOG, 1945. The second edition of a new annual catalog of parts, materials, accessories, and services used by the aircraft industry. N. Y., INSTITUTE OF THE AERONAUTICAL SCIENCES, 1945.

AVIATION EQUIPMENT RED BOOK 1945-1946. New edition of an annual reference publication devoted to aircraft product source information. N. Y., HAIRE PUBLISHING COMPANY, 1945.

AVIATION FACTS AND FIGURES. *Rudolph Modley.* A comprehensive reference handbook of pertinent data and statistics on aviation as a whole, with emphasis on the aircraft industry. N. Y., MCGRAW-HILL, 1945.

These books are available to AAF personnel through the AAF Field Technical Library Service. For a complete list of books so available, see TECHNICAL PUBLICATIONS FOR ARMY AIR FORCES TECHNICAL LIBRARIES, Book List No. 2, March 1945 and supplements thereto. These lists are compiled by AAF Headquarters Library. Personal copies of these books may be obtained from the publishers or retail bookstores.

## CROSS COUNTRY

mission with the 3rd Army. Our P-47s were loaded with two 500-pound bombs and 400 rounds per gun of armor piercing incendiary bullets. We were crossing the front line near the plains before the Saar Valley when the 12th Corps Ground Controller informed us that a sharp tank battle between our Shermans and German Tigers was going on five miles to the southeast. Ordering the squadron to arm their bombs I approached the scene of the battle at an altitude of 5,000 feet, and with the aid of a fighter pilot in one of our own tanks below located the enemy force. Plenty of 20 and 40 millimeter antiaircraft was coming up from the panzers rear. I put my flight into a trail formation with about a 100-yard interval and split essed on the Tiger tanks releasing the bombs at about 1,500 feet. The 24 bombs dropped by the squadron accounted for two tanks knocked out. Then with one flight up for top cover, the other two flights set up two gunnery patterns and made repeated attacks upon the fleeing enemy tanks. These strafing attacks accounted for three additional. The counter-attack was over. During the entire mission the air speed never exceeded 350 mph and this, only in the dive bomb run.

"In conclusion I would like to say that from personal participation and observation the modern fighter-bomber must be maneuverable, relatively slow, rugged and high-powered, also capable of carrying great loads long distances. The fighter-bomber of the European Theater was the Thunderbolt and it fulfilled these needs, and unless there are radical changes in the method of waging war, I believe that it will be this type of aircraft that will afford the greatest amount of cooperation for our ground armies. This is one phase of air warfare not requiring aircraft that invade the field of supersonic speeds. Are there any other fighter-bomber pilots who wish to discuss this further?"

### Thirty-six Times

In twenty months "737," the 54th Troop Carrier Squadron's C-47-A has flown 872,865 miles or 36 times around the world, averaging more than 8½ hours a day in the air. Operating in the Aleutian Islands, where "the most treacherous flying weather in the world" exists "737" has flown a total of 5,134½ hours.

Even though the plane has several thousand more miles of life it is being retired. Colonel Leslie G. Mulzer, Commanding Officer of the Alaska Air Depot, said, "It is a compliment to the pilots and crews of the 54th Troop Carrier Squadron to have operated a plane so consistently under such rigorous conditions."

### Reserves May Fly

The Air Reserve Association of the United States, which supports Air Corps reserve officer training, has been reactivated in order that discharged Air Corps reserve members may continue to fly.

Any member of the Air Corps Reserve of the United States Army is eligible for membership. Flying facilities will be provided at Army bases with the government allocating funds so that each officer will be permitted as much as 150 hours flying time annually. Members can get air time in AT-6 and AT-11 training planes and in P-47 and P-51 fighter planes.

Colonel T. Q. Graff, deputy commander of Hammer Field, California, command pilot and combat veteran of the 376th Bombardment Group, has been national president since 1942.

The association will launch a membership drive soon from its temporary Washington headquarters and plans a national convention in the Spring.

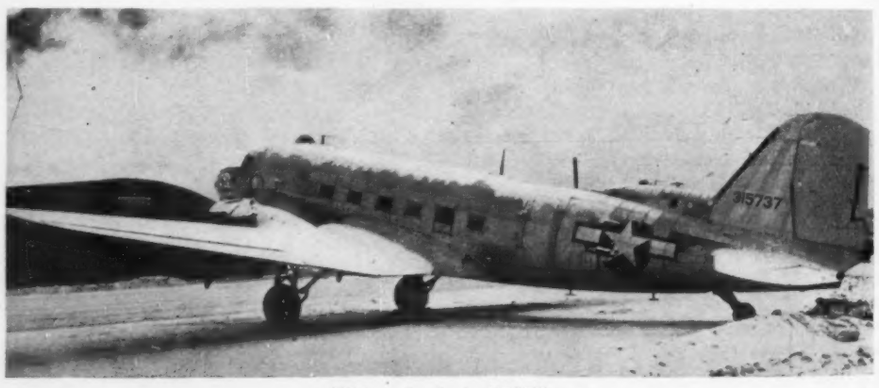
### Memo to Flight Officers

If you are a returnee flight officer who was recommended in a theater of operations for appointment as second lieutenant, and if that appointment was never completed, you can now be processed to receive it.

Authority for such action is AAF Letter 25-21, dated 6 February. Flight officers who hold aeronautical ratings other than pilot and who are not graduates of aviation-cadet or aviation-student courses will not be processed. Nor will flight officers eligible for and desiring immediate separation be processed.

### Are You a "Twirly Bird"

The "Twirly Birds" is an organization formed for those who have flown a helicopter in sustained flight, without the




*Thirty-six times "737"*

assistance of other persons, prior to V-J Day.

Headed by Igor I. Sikorsky, president, the organization was recently founded to recognize and cement the fellowship and cordial exchange of experience and opinions as the helicopter art progresses. Prospective members may submit their applications to C. A. Moeller, secretary, Grassy Hill Road, Orange, Conn.

## Chute Champ

The 82nd Airborne Division which recently paraded up 5th Avenue in New York claims that Sgt. Ronald J. Colwell, 34, of Youngstown, Ohio, holds the record for professional parachutists who have also jumped in combat.

As a civilian barnstomer, Colwell made 681 jumps and to date, he has made 53 jumps for the Army. Two token jumps made by the 82nd at Templehof were his 733rd and 734th trips with silk. Interviewed by an AIR FORCE correspondent after his most recent jump, Colwell outlined his career as a professional and military parachutist.

Medium-sized, dark-haired and soft-spoken Colwell was born in Reynoldsville, Pa., and made his first jump on Christmas Day, 1929, at an American Legion sponsored air show at Titusville, Pa. He jumped that day from a Curtiss-Robin monoplane from 2,700 feet, and remembers mainly that he was a very frightened young man. As the years passed he specialized in long-delayed openings, once dropping from 22,000 feet, and he has a record of never riding a plane down after going up for a jump.

Colwell prefers seat packs to back packs, but will take a back pack in preference to a chest pack. His only accident was in 1935 at Chillicothe, Ohio, when he landed jackknifed over the concrete wall of a football stadium, breaking both shoulders, both collarbones, both legs and seven ribs. But after 27 weeks he was up and jumping again.

It was at Dubois, Pa., on Labor Day, 1936, that Colwell jumped from 22,000 feet. He fell 10,000 feet before opening the chute.

"Nothing much to it," he says. "You spin in the air. There's a roar in your ears, but you don't lose consciousness. It's exhilarating, once you're underway."

Colwell enlisted as a paratrooper on October 15, 1942. For 11 months he was an instructor in the Parachute Training School at Fort Benning, Ga., making 10 jumps by way of illustrating his points. He went overseas in April 1943, as a member of the 82nd's 376 Parachute Field Artillery Battalion. He continued teaching the art of jumping in the overseas school, and added 29 jumps to his own string.

His two combat jumps were into Gela, Sicily in July 1943, and into Nijmegen, Holland, in September 1944. The sergeant claims that the first one was from 300 feet and that his chute opened exactly one-tenth

# PLANE BONERS

## Analyzed by Veteran Pilots

ALBUQUERQUE, NEW MEXICO—The right main outboard tire on a B-29 blew out after a roll of approximately 2,000 feet on landing. As the pilot cut his throttle the plane veered to the right off the runway and came to a stop.

*Comment: This pilot blew out a tire by inadvertently applying brakes instead of rudder. Check the position of your feet prior to landing so that you will know what you are doing when you do it.*

ROSWELL, NEW MEXICO—While taxiing at about 10 mph along outside edge of the apron, a B-29s right wing hit the upper forward nose section of a parked B-29, resulting in major damage to both aircraft.

*Comment: This airplane commander was negligent in that he did not thoroughly indoctrinate his crew to be on the lookout for accident situations such as this one. The co-pilot should have announced that the line of travel was obstructed. Taxiing requires especial alertness if it is not to end in a plane damaging accident.*

NORTH FIELD, GUAM—On his B-29 engine run-up, the pilot noticed an unusual drop on magnetos and decided to abort the mission. He called control tower for taxi instructions back to the hard-stand and was instructed to proceed down the runway, turning off on the first taxi-way to the right. The pilot assumed that the first taxi strip was black surfaced and when told by the tower to turn on a closer gravel strip he had too much speed to make a safe turn. He tried the turn and ran off the strip, hitting a coral rock with his No. 1 prop.

*Comment: Safe conduct of the airplane is the responsibility of the airplane commander. Control tower instructions, therefore, do not have to be blindly followed when they endanger the safety of the aircraft and crew.*

INDEPENDENCE, KANSAS—An instructor pilot was giving transition checks to two student pilots on a B-17. At the end of the twelfth landing roll, the instructor made an 180° turn on the runway and started taxiing toward the takeoff end. The airplane was moving at moderate speed when the tail-wheel began to shimmy. The instructor jammed on the brakes and the airplane nosed up, causing major damage to the inboard props.

*Comment: The pilot claimed the brakes were locked but fifteen minutes after the accident the plane was taxied off the runway, using outboard engines, and the brakes were not stuck. Another case of hitting the brakes too hard.*

MCCOOK, NEB.—The engineer on a B-29 at 6,000 feet reported to the pilot that nose oil pressure on No. 3 engine was dropping. The Superfort yawed to the right and the engineer relayed the information that No. 3 oil pressure had dropped to 5 psi. Number 3 engine was feathered, the pilot believing it had quit. Shortly after feathering No. 3, the tachometer for No. 4 dropped to zero. However, the No. 4 prop appeared to be overspeeding and, as the toggle switch didn't seem to affect the rpm, the feathering button was used to reduce rpm. The pilot then lowered the landing gear while about six miles from the field during the approach to land. Number 4 engine failed to respond to engine controls and was feathered. While about 50 feet above the ground the airplane slowed to 110 mph, causing the right wing to drop and strike the ground. The Superfort then struck on the main landing gear and rocked to the left. Numbers 1, 2, and 4 propellors struck the ground and curled up.

*Comment: The primary cause of this accident was the fact that the pilot dropped the landing gear too far from the airfield. The chain of events preceding the crash-landing indicates strongly that the crew became confused as to which engine was giving trouble. The pilot should not have feathered No. 3 engine without first satisfying himself that the trouble was not in the oil pressure gauge. After losing No. 4 engine he should have attempted to start No. 3.*

VALDOSTA, GA.—While on a low level navigation mission in an A-26, the pilot got off course and started studying his maps at 200 feet. He stopped studying when he flew into some pine trees. Luckily the airplane was not seriously damaged. The pilot recovered and returned to his base.

*Comment: Do all your inside cockpit concentration at a safe altitude.*

CLAYTON, GA.—A pilot in a C-45, assuming his position to be over level ground, let down while flying instruments. It turned out he was over some mountains and the C-45 struck a tree, knocking a hole in the wing's leading edge. The pilot maintained altitude by skillful maneuvering and all passengers had time to bail out safely.

*Comment: Always know what's under you before you let down by instruments.*

PREPARED BY THE OFFICE OF FLYING SAFETY

of a second before his feet hit the ground. He found combat jumps no more difficult than the non-combat kind.

"You have so much on your mind when you jump that you have no time to worry about the gunfire that may greet you," he says. "I sweat every jump—just like a fellow making his first one."

## Another P-80 Record

An AAF P-80 Shooting Star was completely refueled, inspected and serviced in 1 minute and 54 seconds during the recent record-breaking cross the continent flight.

One plane of the trio made the dash nonstop but two paused at Topeka, Kansas, for refueling. They were met by a crew of 17 picked servicemen and technicians of the ATSC and Lockheed Corporation. Working with four army fuel trucks connected to a battery of eight high pressure filters, the crew completely refueled, inspected and serviced Capt. Babel's plane in 1 minute and 54 seconds. Capt. Babel was on the ground for only four minutes. Capt. Smith, first to land, was ready for take-off in 2 minutes and 59 seconds.

Aviation observers believe this fast job shows that future jet fighter squadrons, when assigned to protect a specific military target, can be kept in the air almost continuously during the danger periods to assure the maximum utilization of every available airplane.

## Barnstorming ATC Style

In the final days of the Pacific war the Air Transport Command staged one of the most dramatic barnstorming operations in history. Never before had so many men and so much equipment been transported so far in so little time. The operation, known as Pacific Division Project 75, is a milestone in air-transport history.

From a deserted airdrome on Okinawa 202 C-54 transports and 3,250 people, from ATC stations all over the world flew 1,347 trips to Tokyo in 17 days. Each trip carried 12,000 pounds payload. From August 28 to September 15, 8,112 tons were lifted for 7,772,064 ton-miles over the 1,950-mile, 10-hour round trip between Okinawa and Tokyo. Just for the record, 23,456 men were moved along with 924 jeeps and 267 other vehicles, 2,348 barrels of gasoline and lubricants, 1,838,725 pounds of rations and 2,999,475 pounds of miscellaneous cargo.

This aerial shuttle moved the 11th Airborne and 27th Infantry Divisions to Atsugi airdrome outside Tokyo to spearhead the occupation. Besides these outfits and their equipment and resupply, advance echelons of GHQ, FEAF, 8th Army, 11th Corps and ATC itself rode the same route to their new places of business. Returning planes brought out 7,928 prisoners of war and internees of 16 nationalities.

It was a barnstorming operation because it was a one-time mission carried out by a task organization never before brought together, based on a field where the facilities assigned to ATC consisted of a 7,500-foot coral runway and a two-square mile coral parking area.

Brig. Gen. E. H. Alexander, boss of Pacific Division's Southwest Pacific Wing, was in charge of the entire operation which was carried out without a single fatality or injury.

## AAF Ski School of Hokkaido

Shortly after the 309th Bomb Wing set up shop at Chitose, on the Jap home island of Hokkaido, several half buried warehouses were discovered. They were jammed to the rafters with Japanese skis, poles, fur boots and other winter equipment.

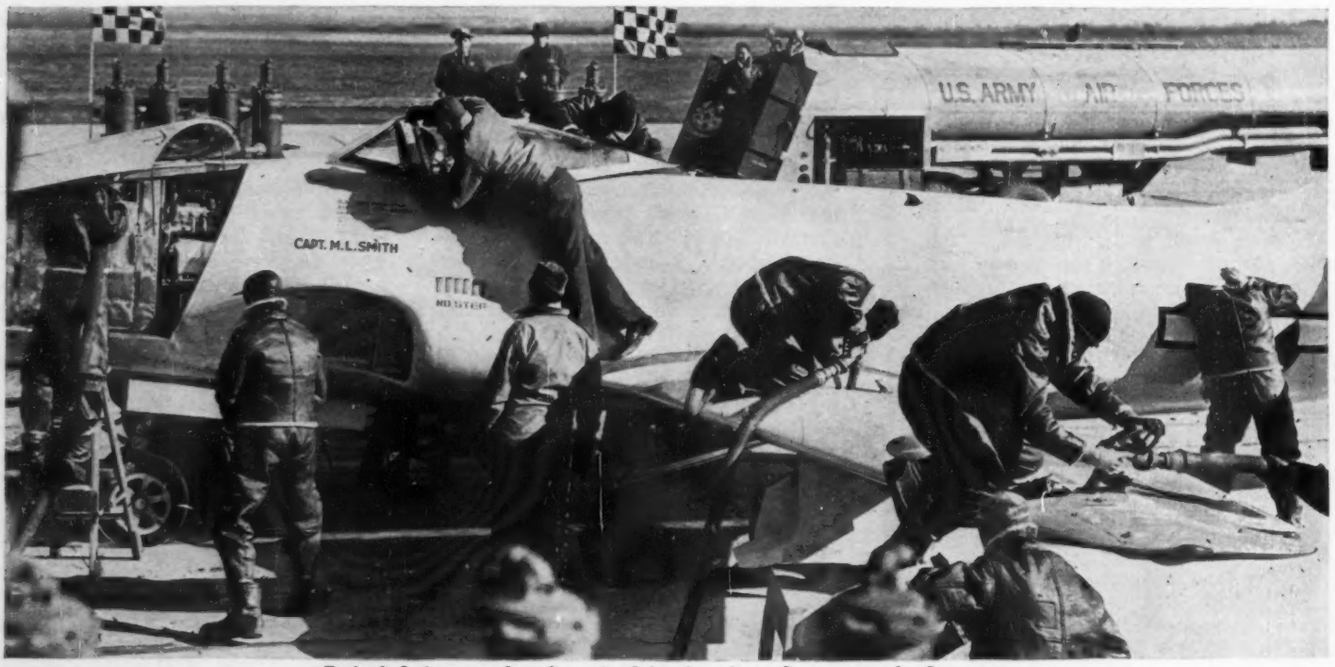
This was a particularly lucky find because winter was coming on and Chitose is located right in the heart of Japan's winter sports country. Snow comes early, lies long and deep. By mid-December the stage is set for a full winter of skiing.

In a poll sponsored by the special services officer Capt. Leonard Newman, more than half of the 970 officers and men expressed a desire to ski. Most of them didn't know the first thing about it, but two sergeants were well qualified to do some educating. They were Sgt. Bruce Harber, former ski instructor from Yosemite National Park, California, and Sgt. Don Meiklejohn, a veteran trail runner from North Adams, Mass.

These two experts set up the AAF Ski School at Hokkaido, making use of the Japanese equipment. They had 30 pair of six foot maple skis, with simple leather bindings and no steel edges. These were shorter by a foot than the average American ski but served well for beginners. For advanced students the special services officer performed a minor miracle by requisitioning about 25 pairs of US Army Mountain Troop skis—seven and a half feet of laminated hickory with steel edges, Kandahar bindings, and a coat of white paint. Along with these came the latest GI ski boots.

With this equipment classes were being held daily on a practice slope a few minutes from the barracks. Plans are in progress to construct a ski tow with some manila rope and an old jeep engine.

An attractive climax to the whole program was the plan to take the Wing's best skiers to the winter resort of Noboribetsu Onsen, about 40 miles into the mountains. Here the Army had taken over the finest hotel in Japan, mineral baths and all.

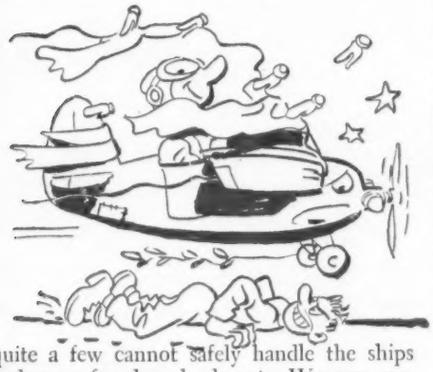



*Refueled, inspected and serviced in time it took to pour the kerosene*

# Too Hot to Handle

A good many discharged pilots are too hot to handle the low horsepower they encounter in civil aircraft. They forget that sometimes it is more difficult to come down a mountain than to climb it—that flying a B-29 doesn't necessarily qualify a pilot to fly a cub, and vice versa.

As a result, hot Army and Navy pilots who have "know-all" but not "know-how" are piling up an abnormal accident rate and a lot of civilian planes. Typical, is the story told by a former AAF service pilot, L. E. Brooks, who has been a civilian instructor for the past year at El Paso, Texas. He writes: "Of the many Army pilots who come to us to rent light planes or PTs,



quite a few cannot safely handle the ships and are refused a check out. We can usually tell before going up with the pilot whether he will be able to make it or not. The 1,000 hour man is always very meek and glad to take a check ride first, whereas, the 200 to 600 hour pilot with a little B-29 experience is usually cocky and insists that he doesn't need a check ride. In three years of civilian instruction at this school we have had no civilian pilot injured and only minor damage done to landing gears by students. But in the past year Army and Navy pilots have completely washed out three planes. The first was a Navy pilot who took three hours in a Taylorcraft and still could not be checked out. He managed to get the airplane later, insisting that he had been checked out, and rolled it up on take off. An AAF B-29 pilot with his navigator in a PT-22 spun out of a snap roll at a low altitude and both were killed. Another B-29 pilot in a PT-19 with his buddy spun out of a chandelle at low altitude. They were not killed but the plane was demolished. His civilian commercial license was revoked.

"Between three schools here we have an unprinted list of AAF pilots that we would not trust with our planes. It costs more than their business is worth. Several fields between California and West Texas have decided that it isn't worth while to rent to these pilots even though they have commercial licenses."

Pilots who are interested in keeping their names off such "lists" will do well to consider the following words to the wise on the transition from military to civil aircraft.

In the first place, military aircraft have evolved into little more than flying engines. With them you had up to 10,000 horses on your nose, pulling you through trouble, but on your civil plane you will probably be riding behind less than 100 horses. That's a big difference—a ratio of 100 to one. The following pointers will give you some idea of what this horsepower difference means in safety characteristics.

**Stress:** Most military airplanes are stressed to stand more G's without breaking up than the human body can stand without loss of consciousness. Not so with civil aircraft. A sharp pullout, tight turn, or other drastic maneuver could very easily tear the wings off your plane before it blacks you out.

**Rate of Climb:** Reduced rate of climb is one of the biggest dangers in the transfer from high powered to low powered planes. Five thousand feet a minute is about standard for most fighters, but on some light planes in the air today the rate of climb on a hot summer day ranges from 300 feet to almost zero per minute. In a light plane you haven't the power to offset mistakes. You can't just ram the throttle forward and expect your plane to zoom up again for another try.

**Stalls:** The same abrupt use of controls causes a high speed stall in a light airplane as quickly as it does in a P-51. "High-speed stalls" is a relative expression.

**Control Reaction:** "Buzzing" in a light plane is a suicidal gesture. Because of its low wing loading a light plane is much harder to control in low level flight than a heavier, high-wing loaded military aircraft.

**Climb:** In your powerful Army plane you were always able to climb up to 10,000, 20,000 or 30,000 feet to escape weather or other hazards. But 15,000 feet is a long, long way up for a light plane, and it takes almost forever to get there.

**Speed:** You used to be able to win most of your races with thunderheads and bad weather in military planes. You'll lose most of them in a civil plane. A little rough air, a head wind and you may find yourself in the middle of plenty of weather, full throttle ineffective.

Aside from these operational differences,

civil and military aviation separate on the matter of responsibility. As a civilian, the United States Treasury isn't behind you to pay for mistakes. Any payment for injuries to property or people comes from your own pocket. And the cost can be tremendous.

In 16 states the airplane is still considered an inherently dangerous instrument. As such, the pilot or owner or both are absolutely liable for injury to third persons. It doesn't make any difference whether the accident could have been prevented or not. In the other 32 states and the District of Columbia it is necessary for the claimant to prove you at fault in order to secure judgment. California is the only state in which the owner of the plane is

not responsible for the death or injury of a passenger unless the accident results from the intoxication or willful misconduct of the pilot.

It follows that you should make sure that you are fully protected by insurance before flying as a civilian. That means aircraft insurance and accident insurance as well as life insurance.

As an owner you are required to obtain a registration certificate, airworthiness certificate and operation record for your plane. You must have the machine checked every 12 months and if you have a commercial certificate, inspections must be run every 100 hours by a rated mechanic.

In the Army you walked to the line confident that the skilled care the airplane received from highly trained mechanics had placed it in top shape. It was unlikely that anything would go wrong unless there was materiel failure.

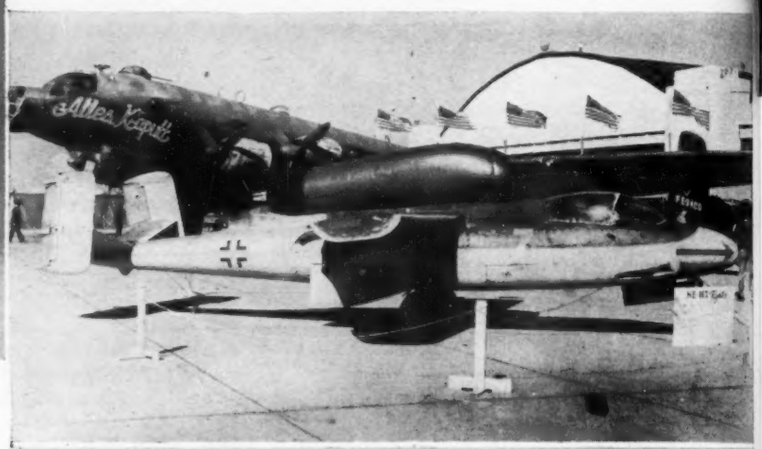
Civil aviation is different. Airplanes fly hour after hour without the morning preflights, the careful inspections which you took for granted in the Army. Approach civil flying with a skeptical attitude. Whether you own the plane or not, always check it thoroughly before you attempt to fly it.

Some military pilots have the misconception that after getting out from under the military yoke they can do all sorts of foolhardy things and get by with it. They don't appreciate the necessity for even closer supervision and control in civil life than in the Army.

While civil aviation agencies, the CAA

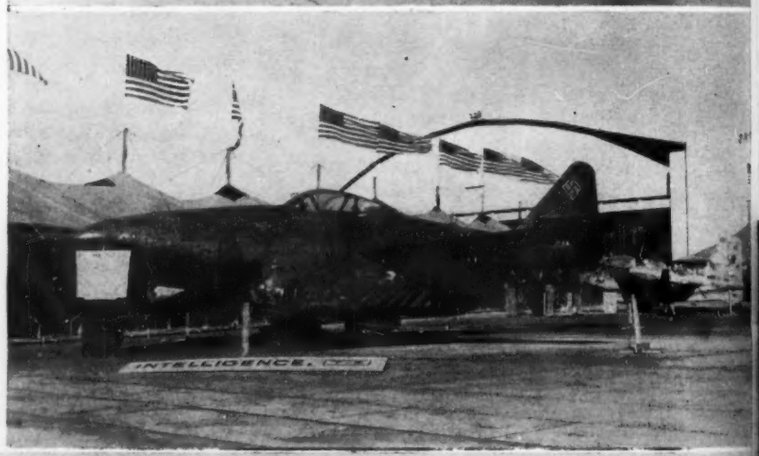
(Continued on Page 48)

**Veteran** Pacific airman, Lt. Gen. George C. Kenney, speaks at opening of AAF fair. Maj. Gen. Kerr, CG, ATSC, is nearest camera. German jet fighters, HE-162 and ME-262 (below).




# WRIGHT FAIR

*At Wright Field more than a million people took an intimate look at the AAF and saw how the air victory was won.*



**After five years** at Wright Field this girl gets her first close-up view of a bomber.

**More than a million** persons view $150,000,000 worth of the latest air equipment at AAF fair. Many weapons, formerly classified secret, were made public for the first time.

The gates of Wright Field, long closed to the public for security reasons, swung wide to admit more than 1,000,000 visitors when the Air Technical Service Command held its "Air Fair" from October 12 to 21. The flight line was transformed into a carnival ground with 100 tents and exhibits.

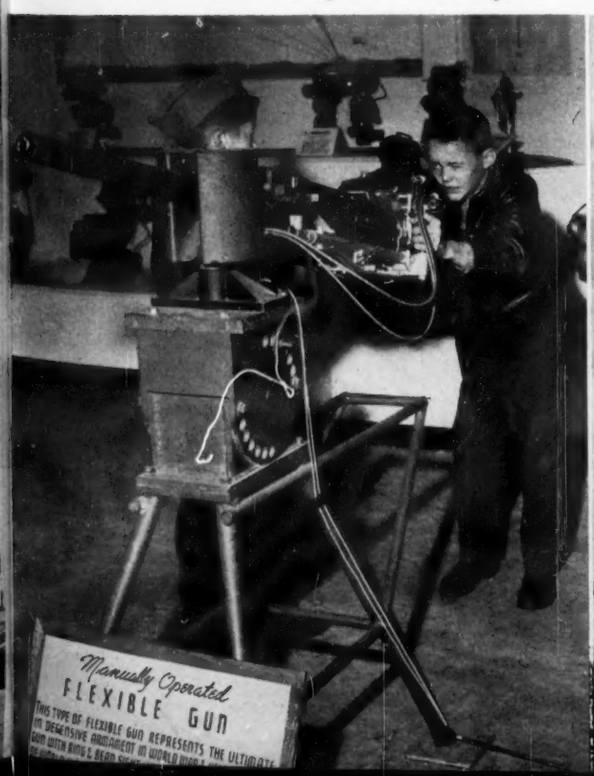
Visitors registered from every state in the Union and 26 foreign countries. For their benefit, all planes were grounded except those in the cavalcade of bombers and fighters that roared overhead in daily aerial displays.

Maj. Gen. Hugh J. Knerr, commanding general of ATSC, estimated that $150,000,000 worth of up-to-date American and captured enemy equipment was on exhibit. Visitors climbed through the interior of a Superfortress, squinted through a bombsight, stood close to a towering German V-2 bomb and to a television bomb developed by the AAF. On display were secrets of radar, jet-turbine units that power the P-80, and a giant 5,000-horsepower engine mock-up.

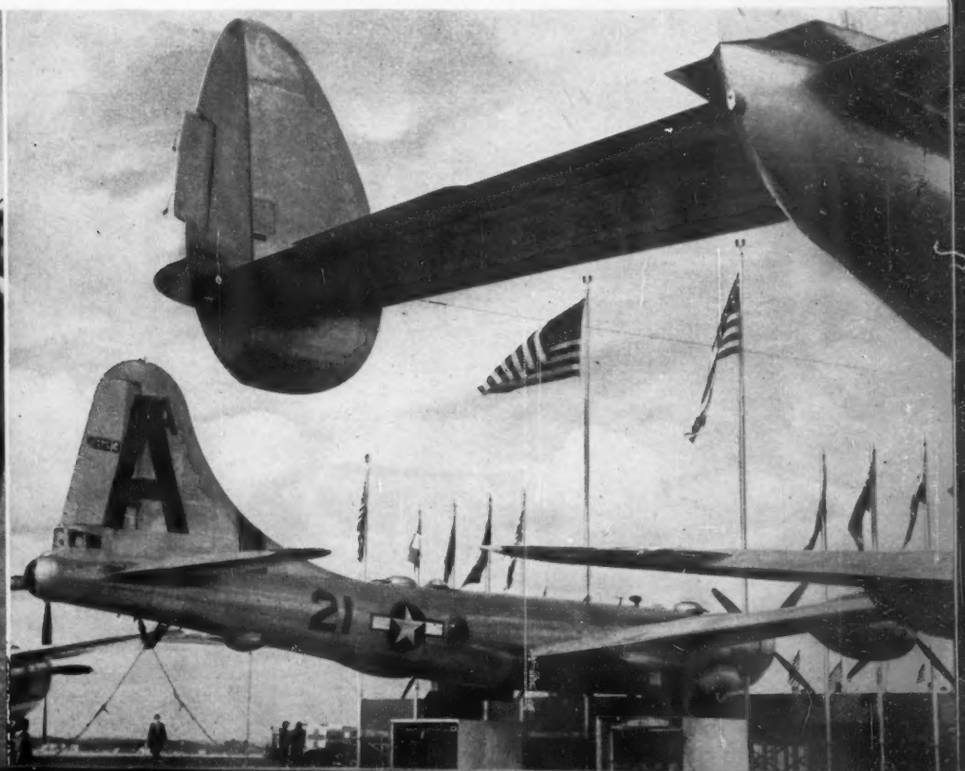
The purpose of the fair was to show the public what the AAF had accomplished in five years of accelerated research and development. To this end, every laboratory at Wright Field was represented by an exhibit showing the functions and result of the work at ATSC, and virtually every type of plane used by the AAF was on display.

Visiting Congressmen, including members of the Military Affairs and Appropriations Committees, were guests of honor along with foreign dignitaries, including Lt. Gen. Leonid G. Rudenko, of the Soviet Purchasing Commission, and Col. Sir Vivian Gabriel of the British Air Commission. ☆

**Airman** of tomorrow sights a .50 caliber gun.




**"Thumper,"** first B-29 over Tokyo, on exhibit beside a Constellation at Air Forces fair.



## OPERATION CROSSROADS

*(Continued from Page 11)*

Assisting Admiral Blandy are two deputy commanders: Maj. Gen. W. E. Kepner, deputy for aviation; and Rear Adm. W. S. Parsons, deputy for technical direction. In addition, the planning staff includes:

Maj. Gen. A. C. McAuliffe, Ground Forces adviser.

Dr. R. A. Sawyer, of the Manhattan District, technical director.

Capt. J. A. Snackenberg, USN, chief of staff.

Capt. R. Brodie, USN, assistant chief of staff for personnel.

Brig. Gen. T. J. Betts, assistant chief of staff for intelligence.

Capt. C. H. Lyman, USN, assistant chief of staff for operations.

Brig. Gen. D. H. Blakelock, assistant chief of staff for logistics.

Close liaison is maintained with Maj. Gen. Leslie R. Groves of the Manhattan District and with the Crossroads Evaluation Board. This latter board is being appointed by the Joint Chiefs of Staff and will consist of two civilian scientists, one member of the Manhattan District (who may be either civilian or military), two Naval and two Army officers. (One Army and one Navy member will be air officers.) This seven-man board will evaluate for the Joint Chiefs of Staff the results of the test and their report will probably include deductions or conclusions upon strategic, tactical, and technical matters related to atomic warfare and national defense.

AAF TASK GROUP. The AAF section of the Crossroads Project is known as Task Group 1.5 and is headed by Brig. Gen. Roger M. Ramey. This task group turns out to be a familiar and honored friend—the old 58th Bomb Wing VHB, which was the original B-29 Wing first based in India and China, later on Tinian, also under General Ramey. The 58th now has under it the famed 509th Atom Bombing Group as part of Task Group 1.5. Since January, the task group has been training at Roswell, Albuquerque and Clovis, N. M., for the Crossroads operation, but will move its headquarters on 15 April from Roswell to Kwajalein. From then until D-Day, "rehearsals" will continue on both Kwajalein and Eniwetok.

Task Group 1.5 has five subsidiary units:

Air Attack Unit (1.51). CO: Col. William H. Blanchard. Personnel from this unit will fly the bomb and instrument-dropping B-29s. Crews are being picked by competition in training and practice.

Air Photo Unit (1.52). CO: Col. Paul T. Cullen. This group has one of the greatest photographic missions ever assigned to the AAF; that of obtaining a complete pictorial record of the atom blast.

Air Instrumentation and Test Requirement Unit (1.53). CO: Col. Harvey Alness. This is another name for the Drone unit which will be stationed on Eniwetok.

Air Transport Unit (1.54). CO: Lt. Col. P. Jennings. In addition to operating an interior continental transport service for Crossroads, this group provides the necessary air transportation for personnel and supplies of Task Group 1.5 from the States to Kwajalein and Eniwetok.

Air Transport Unit (1.55). CO: Lt. Col. J. R. Roche. All personnel and equipment required to support 1.5 except those provided by the units themselves or by the Navy on both Kwajalein and Eniwetok, will be supplied by this group.

Intensive preparations for Crossroads have gone forward in the face of wholesale demobilization and the many technical headaches that have arisen since this unique experiment was first planned. As this is written, most of the units have left the States and are already in the Marshalls running through their scripts for what will probably be the Army-Navy's biggest peacetime performance.—*Charlotte Knight* ☆

### HOW SHARP ARE YOU?

QUESTIONS

1. What type of airplane is shown?
2. There are three men in the picture. True or false?
3. How many bombs are in the picture?
4. A crew member is standing on a ladder while repairing the propeller. True or false.
5. What is the name of the airplane?
6. The bombs are resting on the ground. True or false?
7. How many machine guns are visible?
8. A two wheel trailer is beside the airplane. True or false?
9. How many airplanes are shown?
10. Is the cockpit visible?
11. There is a bicycle in the picture. True or false?
12. How many blades does the propeller have?

ANSWERS ON PAGE 39

### PICTURE CREDITS

Page 32: Lockheed Aircraft Corp., Burbank, Calif.

Page 39: Republic Aviation Corp., Farmingdale, Long Island, N. Y.

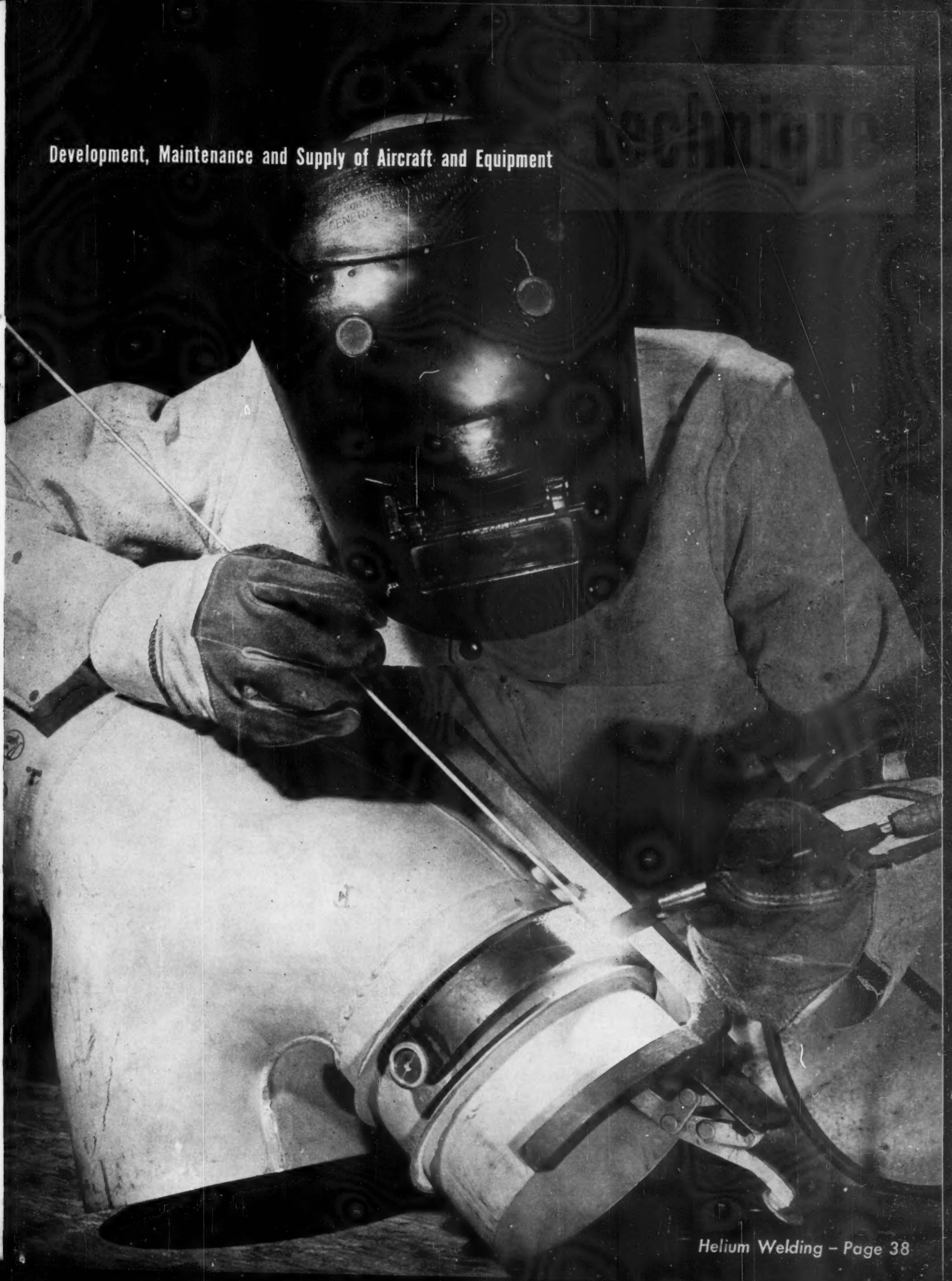
All other photographs in this issue were secured through official Army Air Forces and Signal Corps sources. Requests for prints and photographs for official use and publication should be directed to the AAF Photographic Library, Headquarters, AAF, Washington 25, D. C. All other requests must be forwarded to the original source.

### BONUS BONER

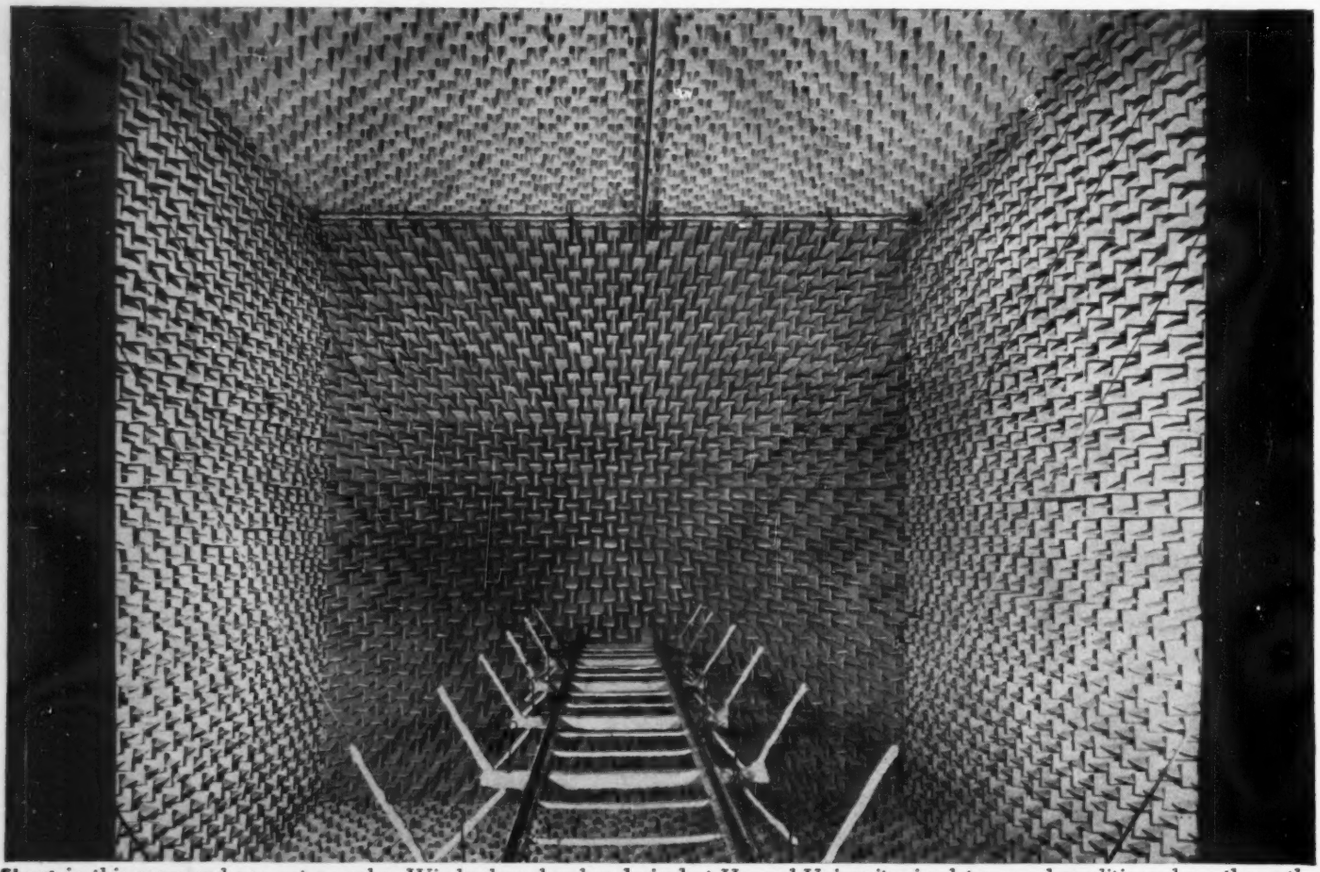
It was stated in the February issue of AIR FORCE that Kansas, Connecticut and New Jersey offer a bonus to their veterans. Official communications inform us that our source for this information was in error and that a bonus is not one of the benefits offered veterans by these three states.

*"Looks like Classification's still on the ball"*

Development, Maintenance and Supply of Aircraft and Equipment



*Helium Welding – Page 38*



**Shout** in this room and you get no echo. Windowless chamber devised at Harvard University simulates sound conditions above the earth.

## Echo-less room for tests

Among the innovations devised at Harvard University's electro-acoustic laboratory during the war was a special room called an "anechoic" chamber, meaning 'without echo.' It was used for testing communications equipment under sound conditions prevailing in the atmosphere. Its walls were almost perfectly absorbing, reflecting less than 1/1000 of the sound striking them. It simulated conditions in the air above the earth where there were no buildings, walls or ground to echo sound, and through which aircraft move.

This windowless chamber, housed in a concrete building 38 x 50 x 38 feet with sidewalls one foot in thickness, had no pillars or beams inside. The interior of the walls was lined with 20,000 wedge-shaped protrusions made from Fiberglas PF Insulating board, formed by sawing up the Fiberglas into the shape of wedges, 45 inches long and eight inches square at the base. These were covered with muslin, and held out a distance of ten inches from the concrete walls by wooden frame work. The wedges, set snugly together, each turned at right angles to its neighbor, completely covered the walls, ceiling and floor. Entrance doors were similarly lined. On a track held above the floor by cables, small cars containing the apparatus to be tested were wheeled into the chamber. Many improvements in microphones, headphones, loudspeakers and sirens grew out of data secured in this echoless room.

## Helium used in welding

Helium, the inert gas that floats airships, is being used to create an "atmosphere" in which magnesium, one of the most combustible of metals, can be welded without being oxidized by the welding torch. Thus magnesium can be fabricated smoothly into streamlined aircraft skins and parts as a substitute for aluminum. This technique was devised early during the war by Northrop Aircraft, Inc., and called the Heliarc welding process, but secrecy shrouded its use for four years. It was perfected at a time when the aircraft industry faced a drastic shortage of aluminum. In this process a shield of helium gas envelops the molten metal preventing it from burning. The gas has over five times the specific heat of air and when in motion prevents heat accumulation around the weld thereby keeping it cooler and giving better fusion with less distortion than ordinary processes. Also the use of flux is eliminated as well as the danger of entrapped flux in the weld ingot that would permit corrosion. The Heliarc process is now used to weld other metals, as well as the combustible ones.

## "Jet Propelled" Cameras

The AAF's latest photographic airplane, a modified P-80 designated the XFP-80A, can map a strip of territory 25 miles wide from Tallahassee to Toronto in three hours. Flying at 30,000 feet at speeds of more than 550 mph, the Shooting Star, fitted with five cameras, can take 2,500 individual pictures, one every two seconds. The aircraft has an enlarged nose section designed to accommodate the cameras including three K-17s for trimetrogon photography, or various installations of the K-18 for taking vertical photographs, 40-inch telescopic lensed K-22s for high speed, low-altitude reconnaissance. With a full complement of cameras it carries almost a half mile of roll film that makes 9 x 9 negatives.

Lack of vibration and superior visibil-

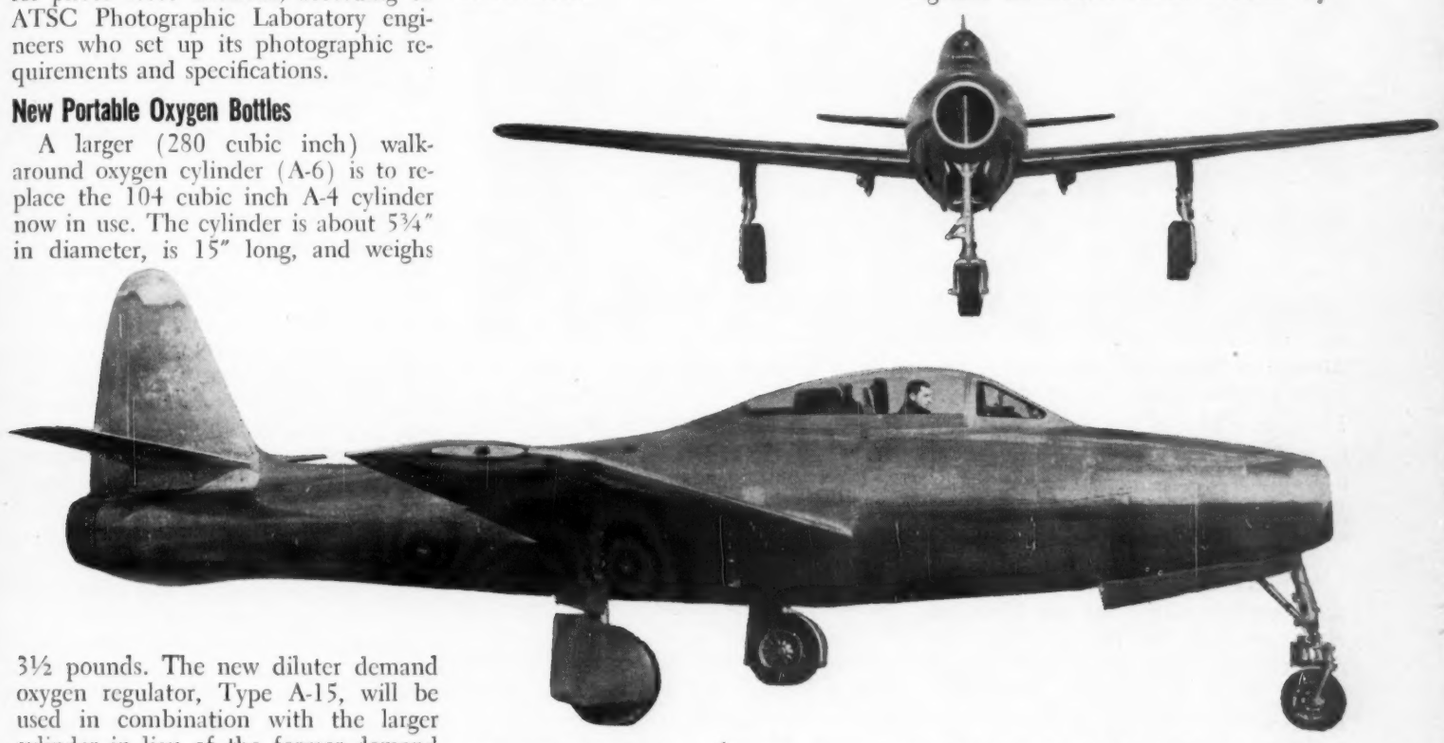
ity of the XFP-80A are boons of good camera shots. Instruments in the cockpit panel tell the pilot when the cameras are functioning properly and a footage meter records at all times the amount of film on hand. Intervalometers permit setting the cameras to take pictures at varying speeds. A push button trigger on the control stick which replaces the gun trip clicks the shutters at pre-set speeds. Its nearsonic speed, maneuverability and high altitude operation make the aircraft "ideal" for photo recce missions, according to ATSC Photographic Laboratory engineers who set up its photographic requirements and specifications.

### New Portable Oxygen Bottles

A larger (280 cubic inch) walk-around oxygen cylinder (A-6) is to replace the 104 cubic inch A-4 cylinder now in use. The cylinder is about 5¾" in diameter, is 15" long, and weighs 3½ pounds. The new diluter demand oxygen regulator, Type A-15, will be used in combination with the larger cylinder in lieu of the former demand regulator, Type A-13. The Type A-15 regulator will automatically provide the correct air-oxygen dilution as ascent is made to altitude, similar in operation to the Type A-12 oxygen regulator, and, together with the larger cylinder, will provide greater service time for the assembly as well as a limited emergency supply.

### Plastic Armor for Aircraft

Doron, a tough plastic material which will stop penetration of low velocity flak particles has been proved practical by ATSC technicians for adaptation to bombers as a light-weight armor plate protection for personnel and equipment. The new material is composed of fiber glass and synthetic resins or plastics. Doron was discovered early in 1943 by Quartermaster engineers in their search for a tough plastic helmet, and gets its name from Colonel George F. Doriot, former Harvard Business School professor, who sponsored its development. The tough glass plastic acts as protection against flak fragments whose velocity is less than 3,000 feet per second, although it offers little protection against high velocity gunfire. It will stop a .45 caliber pistol bullet with less weight required than steel armor, although piercing potentials of machine gun fire tend to rip it to pieces. A cubic foot of Doron weighs 109.20 pounds as compared with 493 pounds a cubic foot of armor steel.



**Winged** wind tunnel is what Army observers call the new jet propelled XP-84. Photo at top, head on, shows air scoop in nose.

### Another Bolt of Thunder

The XP-84 fighter, jet propelled offspring of the conventionally powered P-47, successfully completed its first test flight at Muroc Field, California.

The plane, powered by a new axial flow General Electric jet unit, was designed and built under the joint supervision of Republic Aviation Corporation and the Air Technical Service Command. The air scoop in the nose, a revolutionary design, caused Army observers to characterize it as the "winged wind tunnel."

Although performance details have not been released, the first test flight indicated that the XP-84 has all of the better flying qualities of its forerunner, the Thunderbolt. Production under AAF contract has already started.

### Photo Physicians

Because mosquito-spray machine operators in the CBI theater began developing skin ulcers some time ago, the Army Air Forces have added another laboratory function for color photography.

Seeking a means of combating the ulcers in a non-toxic solvent for DDT, the wonder-working insecticide, technicians in the ATSC's Aero-Medical Laboratory at Wright Field are injecting into themselves varied solutions by scratching or cutting their skin. Color photography experts record the progress of the resulting dermatitis each 24 hours. Through a deliberate campaign by the photographic engineering branch of the ATSC engineering division, color photography has become almost standard laboratory procedure. Comparatively faithful color photographs offer several laboratory advantages. Colors tell the story at a glance. In photographic form they permit minute examination of transient evidence which cannot be retained mentally with exactitude.

**Answers to "How Sharp Are You"**

Questions on Page 36
Photo on Page 2

1. B-24 Liberator
2. True
3. Three
4. False
5. "Secrut Weapin"
6. False
7. Two
8. True
9. Two
10. No
11. True
12. Three

### Bailing out over Water

In the belief that it's a paying proposition to practice something that has to be perfect the first time, the France Field Base of the 6th Air Force, Panama Canal Department, constructed a training device to permit pilots to become proficient in hitting the water, shedding their parachute harnesses and getting into their boats.

**Airman** set for dunking practice. After drop he will inflate boat carried in seat pack.

Striving for realism, local swimming pools were bypassed and the apparatus was located on the Atlantic coast not far from the base. At least once each month, every fighter pilot stationed at the field was required to strap himself in a regulation parachute harness, minus chute, and be swung over the water and dropped in. He then gets out of the harness, inflates his little rubber boat which is carried in the seat of the chute pack, climbs in and paddles ashore.

The dunking machine was designed by Capt. George Clayton, executive officer of the fighter squadron commanded by Maj. Bruce Hinton at France Field, along with Maj. Dwight Green, Base Supply and Evacuation Officer and Lt. Col. Leon Berger, Base Commander at the time the machine was built.

### Engine Preheater

Heating of radial aircraft engines for cold-weather operations now can be accomplished with a one-man operated engine preheater, which can be hung conveniently from the propeller and connected to the engine. Shaped like a mail box, the heater burns kerosene, weighs about 45 pounds and comes equipped with an air-snug canvas hood for enclosing the engine. The unit is comprised of a welded steel burner, a small blower which drives heated air and furnishes forced draft for combustion, a built-in fuel tank and controls centered on a small panel at one end of the box. Ducts and hoods are available to fit all sizes and types of radial engines.

### Portable Air Conditioners

New portable air-conditioning units, developed by the Equipment Laboratory, enable ground mechanics to make repairs in airplanes despite the intense build-up of heat in fuselage interiors. Equipment consists of gasoline-driven condenser and a detachable evaporator and fan unit on a 15-foot flexible refrigerant line. Weight of evaporator is 160 pounds and complete trailer unit weighs nearly 700 pounds, can be transported in cargo planes. Unit is adaptation of that used in Pullmans and Greyhound buses and can substitue as refrigerator 35° F. for 200 cu. ft. storage space; other uses include air conditioning of hospitals, insulated shelters, truck vans and photographic dark rooms.

### Heavy-Duty Engine Container

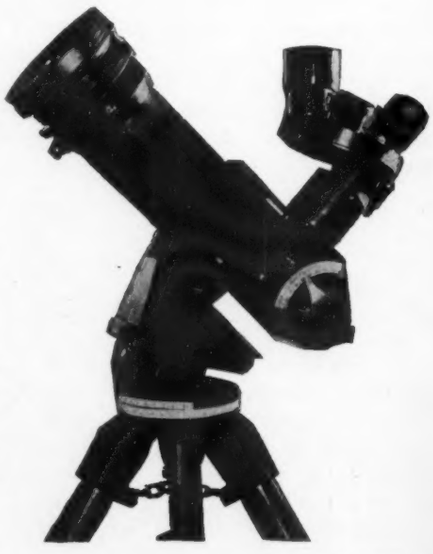
The crating and shipping of giant aircraft engines has always been a major problem, since rough handling and corrosion-causing moisture can damage parts and render the engine defective. In shipping material to the U. S. packaging considerations are being given special attention by supply experts, and a steel drum has been developed to serve as an engine container which can survive rough treatment and prevent moisture from reaching the vital parts. Also, in the event of a mishap at sea, the container will float on the surface to permit ready salvage of engines.

### Daytime Star Gazing

Without being bopped smartly on the head, one can see stars in the daytime! Through a new AAF optical instrument made by officers at the Air Forces Board, Orlando, Fla., now being perfected for mounting in aircraft, stars and planets are discernible. This may be the answer to the over-water navigator's dream. The gadget consists of an optical lens two inches in diameter with a focal length of 12 inches. Attached to the lower end of the tube is an eye-piece turret with three eye-piece mounts giving 10x, 20x and 40x magnification. Shades are attached to reduce sun glare. Inside the tube is a prism which bends the light rays ninety degrees. Through it stars can be seen in daylight under favorable atmospheric conditions.

Ground tests were conducted recently at Mount Wilson Observatory near Pasadena, Calif., where there was no ground haze. From a period one-half hour before sunrise, brightness readings were taken of the sky every ten minutes. At the moment the sun appeared over the horizon the sky attained practically the full brightness observed at later periods of the day.

The tripod holding the sighting instrument was furnished with a simple scale making it possible to orient the instrument in azimuth with an accuracy of 1 to 2 degrees. A small bubble chamber on the telescope gave altitude readings. In order to pre-set the in-



strument for a certain celestial body, it was first oriented in azimuth by means of the sun, then turned at the pre-computed azimuth and pre-set for altitude of the celestial body.

During the period of observation the planet Venus, brightness minus 3.3; Arcturus, 0.2 magnitude; Procyou, 0.5 magnitude; Sirius, minus 1.6; and Saturn, minus 0.3 magnitude were among the heavenly bodies found without difficulty. Under favorable atmospheric conditions any celestial body brighter than 0.5 magnitude can be seen during sunlight.

It now remains to perfect a special mount to absorb engine vibrations and eliminate small-amplitude wavy motion of the aircraft before it can be used by navigators in flight.

### "Shoran" Navigator

One of the projects for the future of the Electronic Subdivision at Wright Field is the modification of "Shoran," a radar system for short range navigation, in order to increase its range without losing any of its valuable precision and accuracy. Used operationally for pin-point bombing, "Shoran" also turned out to be extremely valuable for aerial mapping and photography—one of its proved peacetime uses.

Unlike "Loran," it is the airborne component in the "Shoran" system that does the transmitting. A radio beam is sent out and re-transmitted by special ground "Shoran" stations, which transmit only when being "triggered." "Shoran" measures the time it takes a signal to return to the plane from two stations whose location is previously known to the navigator, and then computes the plane's distance from these points, thus making it possible to get an exact fix on the position of the airplane.

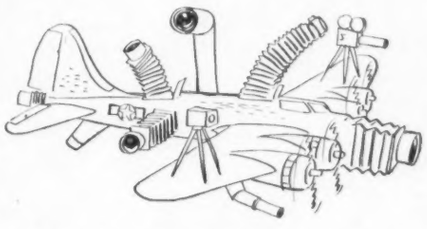
The "Shoran" system has a range of 250 miles and is accurate to within 75 feet. First introduced into combat in December 1944, it proved 70% successful in all bombing attacks. Much of the delay involved in trying out "Shoran" was due to the tragic death of project officer Lt. Col. R. Reid Brunner and other civilian and military engineers in a plane crash at sea on their return from Europe with valuable technical information.

The "Shoran" airborne component, weighing about 286 pounds, has two omni-directional antennas and a scope with a circular sweep. The ground system weighs over 1,000 pounds, requires two operators and can respond to as many as 20 airborne sets at one time.

# tech topics . . . about aircraft and equipment

**An experimental vest,** worn over fatigue uniforms, has been developed for line crewmen to wear. The vest makes it possible for pilots to easily distinguish the crewmen from other personnel, thus facilitating ground taxiing and other operations. The vests are easy to spot at night when "the line" is under the lights.

**One B-17G airplane** has been modified into a photographic test airplane for trying out experimental cameras. Equipment for tri-metrogon, or forward oblique photography, is installed in the nose, while waist gun and tail gun positions both have provisions for side and rear oblique cameras. Space has been provided in the



fuselage for six vertical camera stations. Control of the cameras may be accomplished from either the nose of the plane or from a special photographer's station in the radio compartment.

**Two "X" models** are getting new landing-gear arrangements. The Curtiss XC-46B, a new and improved version of the famous Commando troop carrier, will have a unique dual-wheel, tail wheel. . . . Later models of the XB-36 airplane will have a four wheel main landing gear — dual wheels on each strut like the B-29—instead of the 110-inch single wheels on the first airplane. . . . Purpose of the change is to reduce the thickness of the runway concrete necessary to support the airplane, an important lesson learned from experiments with the XB-19 which cracked the runway on its initial ground runs.

**A flotation litter** is being fabricated for use in rescue boats. Basic design is similar to the litter types used in the OA-10A flying boat rescue craft. Inflated rubber tubes attached to the head and both sides of the litter give it buoyancy. . . . An airborne sea rescue boat is being designed specifically for adaptation to a C-54 airplane. This boat will be considerably larger and be capable of carrying more persons and equipment than the already famous "Flying Dutchman."

**The latest** motion picture film developing unit is capable of processing eight rolls of 16-mm negative or positive film in lengths up to 100 feet. The motor-driven developer is equipped with a hand crank for emergency operation. . . . A dryer, utilizing eight endless belts, draws the processed film through heated tubes to expedite delivery. Reels on the developer can also be used in the dryer.

**Photographic engineers** at ATSC are working on an idea to use a glass plate in the focal plane of the A-9 camera magazine, eliminating vacuum which occurs when moving film is used. . . . Another development is a moving film magazine with a self-contained drive mechanism. This unit permits installation of the magazine in any standard aerial photographic equipment. . . . These experts have also developed an accurate shutter tester which makes it possible to test with the high-speed shutters of new cameras.

**The C-97,** the AAF's largest cargo airplane except for the untried C-99, has been fitted with a monorail system for unloading cargo in mid-air. Seventeen clusters, each having five standard aerial delivery containers, are attached to trolleys on the overhead rail. With this arrangement, 25,000 pounds of cargo can be delivered in 20 seconds. A unique system of spacing and traversing, along with a special release mechanism, constantly maintains the center of gravity within safe and controllable limits as the plane speeds through the air spewing its cargo like bombs "in train." The cargo goes out the rear door and each cluster is released automatically, as it reaches the proper position, by a daisy-chain arrangement.

**Helicopters,** whose fabric-covered blades are easily punctured during a heavy rain, may get steel blades for their rotors. A current test is underway with metal rotor blades developed for the R-6 helicopter.

. . . Essentially, the experimental blade consists of the steel spar used in present R-6A blades, with alclad ribs and a thin alclad skin wrapped around the whole structure to form the airfoil. . . . Both the R-6 and R-5 helicopters are also being equipped with floats instead of wheels to determine methods of eliminating ground resonance on take-offs and landings.

**A specially treated nylon cloth** has been made water-repellent. Previously nylons, after laundering or dry cleaning, couldn't be made to sluff off water. But the new sample five-ounce nylon combat cloth seems to do the trick.

**Stepping** out two at a time, paratroopers are in no danger of striking aircraft tail.

## New Paratroop Carrier

The use of two doors in the rear of the underslung fuselage enabling two paratroopers to bail out at a time without danger of striking the tail or being buffeted by the propeller blast, is one of the advantages of the "Packet," Fairchild's new C-82 transport. It was tested recently by four paratroopers of the 1st Airborne Service Test Section of the Army Ground Forces from Pope Field, N. C., who jumped from the big ship at Hagerstown, Md.

The Packet is in the 50,000 pound transport class. It carries nine tons, its straight-walled cargo hold having a capacity of 2,870 cubic feet. It is capable of taking to air after unusually short ground runs. Fairchild's veteran chief test pilot, Richard A. Henson, said that for a routine take-off, flaps of the Packet are set at 15 degrees and 53 inches manifold pressure at 2,800 rpm. "I don't attempt to pull off the ground in too big a hurry, but let the plane ride at a three-point attitude until 75 to 80 mph indicated air speed is reached. At that point the nose is pulled up at a high angle of attack, and the Packet comes off clear after a very short run due to the high acceleration of the aircraft during the ground run."

Built exclusively for the Army Air Forces, the C-82 was tested for its adaptability to airborne operations. It can carry 42 fully-equipped paratroopers, who jump from the two cargo-loading doors in the rear of the fuselage. When the Packet is operated as a paratroop carrier, the "paratainer" doors in the floor of the fuselage are used to release "paracans" of equipment simultaneously with the jumpers.

Advantages of dropping two men at a time are obvious. Paratroopers get out more quickly and without the hazards of being struck by the empennage or the prop blast. Time over the target is reduced, also. It is soon to be introduced as a commercial air carrier.

## B-29 Weather Reconnaissance

Experience gained during the war in taking weather observations by aircraft in flight has proved so successful that it will be incorporated in postwar plans of the AAF. Weather-modified Superfortresses will be used in conjunction with the postwar weather reconnaissance program. The purpose of this program is to obtain daily weather observations at pre-determined points in areas where ground staffs are unable to operate.

The modified B-29 has been stripped of armament and the radar has been shifted. Instead of an eleven-man crew, six officers and two enlisted men will carry out the duties necessary to insure successful completion of each weather mission. A weather observer replaces the bombardier in the nose compartment and his crew mates consist of pilot, co-pilot, navigator, engineer, radar operator and two radio operators.

In the observer's compartment is a special arrangement of numerous weather recording instruments—barographs, barometers, psychrometers, driftmeters, wire recorders and various radio pieces necessary for transmitting and receiving. Ten radiosondes are stowed in the aft-compartment and dropped by parachute to get weather information which is transmitted to the aircraft, then relayed back to the base.

As a part of the program, specially equipped B-29s will fly around and through thunderstorms this spring and summer in the area around Orlando, Fla., collecting instrumental and photographic observations relating to clouds forms, clouds heights, turbulence, precipitation, lightning, and temperature. Radar will be used to locate nearby rain areas, and various methods of using radar to select a safe path through the storm will be tested.

With this information, AAF operational and weather personnel will be able to develop flight procedure and technique to avoid the many hazards of thunderstorm flying. Ground radar will follow the movement of the storm-rain areas as well as to trace the aircraft in flight. Ground installations will include a large number of specially equipped weather stations maintained jointly by the AAF and the U. S. Weather Bureau. These stations will take balloon soundings using radiosondes which broadcast the weather aloft. Meteorological conditions at the surface will also be reported by the ground stations.

## Hammock Seat for Fighters

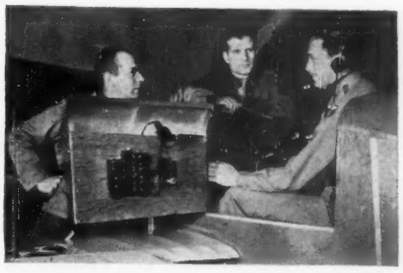
To relieve the discomfort of long flights, caused by the bucket-type seats in fighter planes, a series of experiments are under way to determine the comfort and practicability of a hammock support. It has been found that such a seat adjusts itself easily to the sitting habits and posture of the pilot and makes it easy to incorporate various refinements in the seat frame, such as back tilt and seat-bottom tilt and an adjustable support for the middle of the back.

When using the seat, a pilot first removes the hammock, then places his chute and raft in the frame. He then replaces the hammock, seats himself in it, buckles up and makes the necessary adjustments for personal comfort. For emergency exit he merely releases his standard safety belts and stands up—the hammock lifts off its pegs and stays right with him.

# on the line

### with mechs around the world

**R-T practice** while getting in Link time is practical with the installation of VHF radio equipment on Link Trainers. Two Chico Army Air Field (Calif.) technicians earned commendation from Maj. Gen. James E. Parker, commanding general, 4th Air Force, for this installation. They are, left, Cpl. Clark L. Burr and S/Sgt. Philip Clawson, talking things over with their department head, 1st Lt. Howard L. Kline. The equipment duplicates that in the cockpit of a P-38.

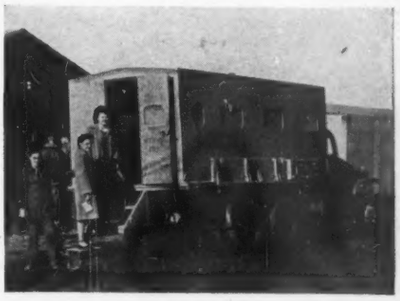


**Icy runways** are no longer a hazard if a non-slipping wheel chock, devised by Colonel George Polk, commanding officer, Alaska Air Depot, Elmendorf Field, Alaska, is used. Weight of the aircraft when wheeled on to the chock, forces the cleated front bar to dig into the ice. When the propeller thrust drops after the engine has been run up, the wheels roll back, leaving the chocks free for easy removal.

**Taking off** a 500-pound propeller from the engine nacelles of high-wing aircraft was a difficult task until S/Sgt. Joseph Flitter of LaPorte, Ind., at an Air Service Command depot in England, fitted up a standard model tug with a hoist-and-boom

unit. He used a salvaged bomb-hoist unit from a Flying Fortress and a landing gear retraction unit from a Liberator. A three-man job that took two hours can be done by two men without strain in 45 minutes.

**Up Marks Field way,** in Nome, Alaska, the normal cold-weather temperatures call for some real winterizing, and since regular GI busses are not available, a fleet of 2½ ton Army "backbuster" trucks have been equipped with plywood bodies to make them snug and comfortable on passenger runs. Windows were cut out and covered with salvaged plexiglas, upholstery was extemporized from reclaimed blankets, built-in steps were provided and a ceiling light was installed, as well as a warning bell to tell the driver where to stop. The modifications were carried out under the direction of Capt. Idas T. Murrah, Denison, Texas, and Sgt. Francis M. Bonacci, Detroit.



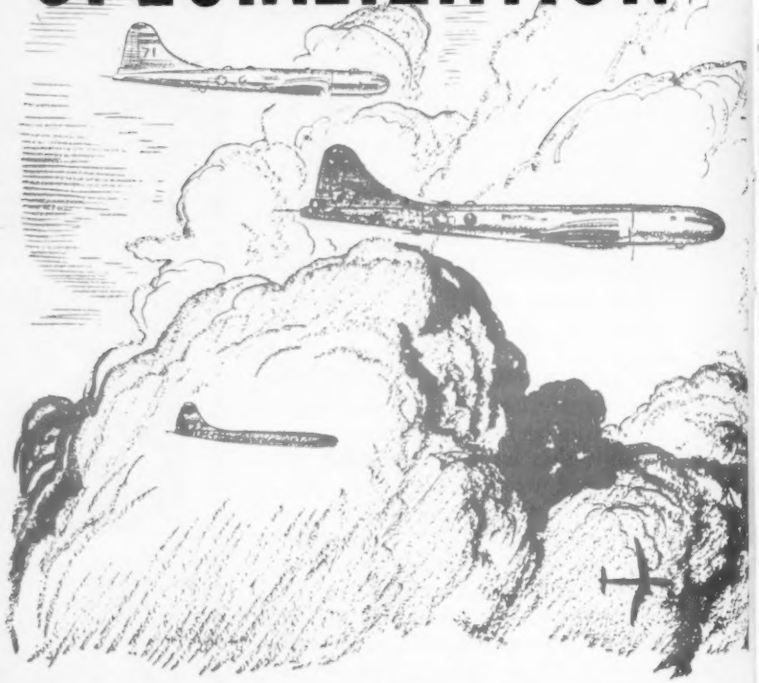
**T/Sgt. Llewellyn Muxlow,** a member of the 5th Bombardment Group of the Philippines-based 13th Air Force, thought that the corrosion of electrical wiring and the incidence of mildew formations in intervalometers, caused by tropic dampness, could be prevented by the application of heat. He therefore devised a "hot box"

from a frag container and some discarded gun heaters, screwing six 24-volt heaters in the tin-lined lid of the box and wiring them in series. The box is airtight and consequently dry at all times—serving as an ideal storage unit for delicate instruments.

**Air Forces personnel** are golf enthusiasts wherever grass grows. Rest from training flights is scheduled. At Waikiki, pilot Watts, below, serves his crew members Olsa, Dormuth, Klassy and Jones.

**Learning how it works** is accomplished in the Air Forces with the aid of competent instructors and working mock-ups. Men are given valuable technical training to qualify them for promotions.

# STRIPES, SPORTS, SPECIALIZATION



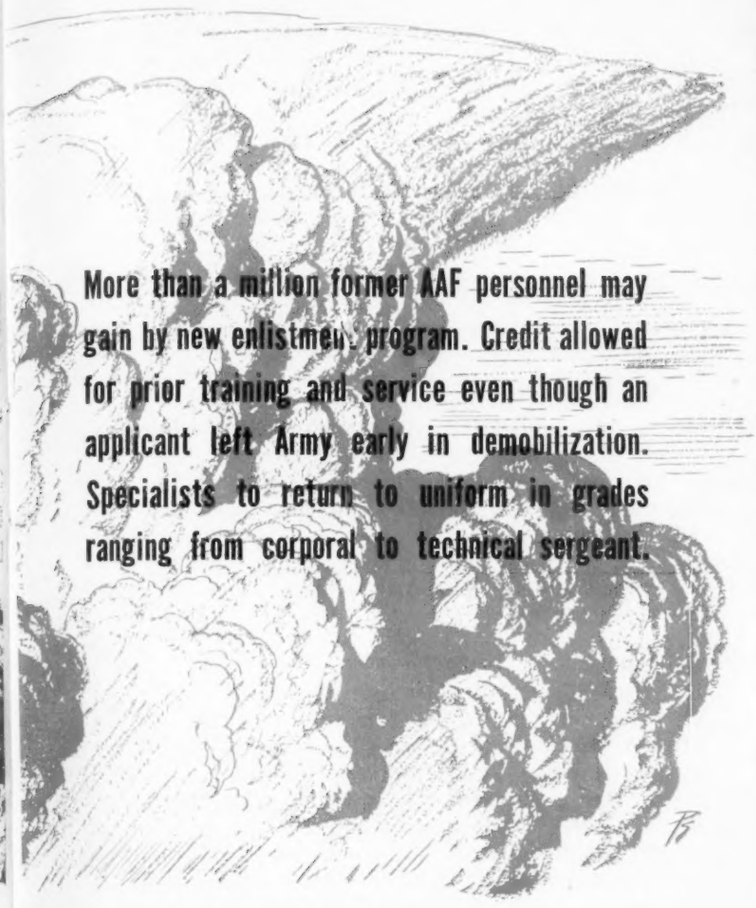
More than 1,000,000 former Air Force personnel will be affected by a new enlistment procedure just announced.

To encourage qualified former Air Force personnel to enlist, credit is now being given for prior training and experience even though an applicant may have left the service early in the demobilization period. A list of typical military occupational specialties needed by the AAF, together with grades allowed for various periods of service, is added here to illustrate the new system. The complete procedure is described in War Department Pamphlet No. 12-16, February 1946, which is in the hands of all recruiting personnel.

AAF specialists who have been honorably discharged (or released under honorable conditions) on or after May 12, 1945, may enlist in grades 2 to 5, depending upon their period of service and their specialty. They must enlist, however, before July 30 of this year. Beginning July 1, those who sign up for three years will have the same privilege, but they must enlist within three months after the date of their last satisfactory military service. An applicant cannot be given a grade higher than the one he previously held in the Army; if he has served less than six months, he must begin as a private.

Prior service—the occupational specialty and length of time spent in it—is therefore of first importance. Reference to WD AGO Form 100 is the only practical way of verifying this service. Since the Army regularly sends a copy of this form to the United States Employment Service office in the town given as the "home address" at the time of separation, a man who has lost his copy can usually find one at that office.

Former officers as well as former enlisted men have expressed interest in this new program for recruiting spe-



**More than a million former AAF personnel may gain by new enlistment program. Credit allowed for prior training and service even though an applicant left Army early in demobilization. Specialists to return to uniform in grades ranging from corporal to technical sergeant.**

cialists. An officer's application for enlistment will be forwarded by the recruiting agency directly to the commanding general of the major force in which he wishes to serve. If the officer has no copy of his Form 100, there should be included in his application his full name, serial number, length of service in main and related military occupational specialties, time served in each rank while on active duty, and the rank held at the time of his release from active duty.

*Typical Opportunities for Enlistment*

| Job Description | MOS | 6 mos. but less than 12 mos. | 12 mos. or over; less than 18 mos. | 18 mos. or over; less than 24 mos. | 24 mos. or over; less than 30 mos. | 30 mos. or over; less than 36 mos. | 36 mos. and over |
|---|---|---|---|---|---|---|---|
| Airplane Main. Technician ..... | 750 | 4* | 3 | 3 | 3 | 2 | 2 |
| Airplane and Engine Mechanic ..... | 747 | 5 | 4 | 4 | 4 | 3 | 3 |
| Weather Forecaster.. | 787 | 4 | 3 | 3 | 2 | 2 | 2 |
| Air Operation Specialist ..... | 791 | 4 | 4 | 3 | 3 | 5 | 2 |
| Airplane Electrical Mechanic ..... | 685 | 5 | 4 | 4 | 4 | 3 | 3 |
| Radio Repairman, A.C. Equipment.. | 647 | 5 | 4 | 4 | 4 | 3 | 3 |
| Radar Mechanic Navigation ..... | 853 | 5 | 4 | 4 | 3 | 3 | 3 |
| Surgical Technician. | 861 | 5 | 5 | 4 | 4 | 3 | 3 |
| Finance Technical Clerk ..... | 622 | 4 | 3 | 3 | 3 | 2 | 2 |
| Medical Technician. | 409 | 5 | 4 | 4 | 4 | 3 | 3 |
| Control Operator... | 552 | 5 | 4 | 4 | 4 | 3 | 3 |
| Tabulating Machine Repairman ..... | 425 | 5 | 4 | 4 | 4 | 3 | 3 |
| Photo Lab. Technician | 945 | 5 | 5 | 4 | 4 | 3 | 3 |
| Dental Lab. Tech.... | 067 | 5 | 4 | 4 | 4 | 4 | 3 |
| A.A.F. Supply Tech.. | 826 | 4 | 3 | 3 | 3 | 2 | 2 |
| Clerk-typist ..... | 405 | 5 | 5 | 5 | 4 | 4 | 4 |

The above are only samples of MOS's which are included in the full list of more than 250.

* Grades: 2, Tech. Sgt.; 3, Staff Sgt.; 4, Sgt.; 5, Corporal.

# VETERANS' NOTES

## Community Advisory Centers

With the assistance of the Retraining and Reemployment Administration, unity of purpose has been given more than 1,800 community centers engaged in programs of postwar readjustment. For a good many months plans were studied and tested. The typical Community Advisory Center will make sense. It will focus the needs of an entire town, together with its capacity for filling them. Because the man who was "drafted" for the atomic bomb plant may be just as much a community asset as one who was drafted for the Army, it will emphasize the future of a man and not the clothes he wore from 1941 to 1945. It will be a community activity in the most literal sense and not a charitable organization.

## Fifteen Million Scholarships

Best of the numerous discussions of educational opportunities under the G. I. Bill is a booklet called "Fifteen Million Veteran Scholarships." Written by Dr. Francis Brown of the American Council on Education, it combines information from official sources with clear interpretations and original research. It is published by the American Council on Public Affairs, 2153 Florida Avenue, Washington, D. C.

## VA Beats the Deadline

In putting the provisions of the new G. I. Bill into effect, the Veterans Administration beat the deadline set by Congress by four weeks. Instead of eight forms, the veteran in search of a loan now fills out only one. An average of 4,000 veterans are seeking loans every week. Among the new features which attract them are: (1) Increase of real estate guarantee from $2,000 to $4,000; (2) extension of deadline for application from 2 to 10 years; (3) extension of deadline for repayment of farm loans from 25 to 40 years; (4) inclusion of cost of lot in construction loans; (5) allowing loans to refinance delinquent debts; (6) allowing loans for inventory, working capital, farm improvements, purchase of stock and seed; (7) allowing veterans on terminal leave or hospitalized pending their discharge to borrow.

## On-the-Job-Gyps

Every responsible Government and private agency has lately warned veterans about on-the-job training. A man who signs away his rights under the G. I. Bill for two years "education" in some plant that takes the Government's money and gives the veteran nothing but the run-around has himself to blame. The Veterans Administration can do nothing but cut off the man's subsistence and his tuition to stop the "schooling" if it is discovered to be a fraud. That's very much like punishing the victim of a robbery and letting the criminal go free, but it's the law. Regulation is up to communities and states, which can put illegal training schemes out of business. Many communities lack adequate inspection systems. In that case, the veteran has only VA training officers' advice, information that he can gather privately, and his own judgment of training values on which to rely. He should use all three safeguards.

## CAP to Help Air Force Veterans

Important news for veterans of the AAF came out of a recent meeting in Washington. Forty-eight Wing Commanders of the Civil Air Patrol, representing 1,500 CAP units in the U. S., met to consider the best means for employing the skills of the typical highly trained Air Force veteran. They voted unanimously to put their full energies behind former members of the AAF who need special advice about employment.

Having made notable contributions to the war effort, the CAP is probably better equipped than any other organization to cooperate with government and local agencies in interpreting the AAF veteran's training experience and qualifications for civilian work. The program will be carried on in close cooperation with official agencies, and the Personal Affairs Division of the AAF is giving all possible support to this program.

## Et Cetera

● In March, General Bradley again recommended changes in G. I. insurance policies. The main ones were: (1) Removal of restrictions on naming of beneficiary, (2) Allowance of a variety of installment and lump-sum payments of insurance, (3) Protection against total disability.

● If you go back to college next fall, you may sleep on an Army bed. The War Assets Corporation's surplus stock of "sleeping equipment" has been frozen for exclusive sale to colleges and universities that need them for student veterans.

● Since World War I, hospitalization of veterans has cost $270,000,000. In the next two years alone, it will cost $448,000,000. More than 70 new hospitals will be built and many others improved. The program provides for 105 general hospitals, 49 neuro-psychiatric institutions and 29 tuberculosis sanitariums.

● Although the Farm Security Administration has made loans to about 9,000 veterans bent on agriculture, funds for assisting farmer-veterans have run low. That is the reason FSA has had to slow down in this program.

● For employers concerned with hiring veterans, the United States Employment Service has issued a twelve-pamphlet set called "Employer's Guide." With an introduction by President Truman, who declares that the veteran is looking for a job and not a handout, the pamphlets are part of a campaign to place 6,000,000 veterans in jobs by next July. The Guide is on file at all USES offices. ☆

## "KRIEGIE" PRESS

*(Continued from Page 18)*

vertisements. For these burlesques Norm Uhlrich did the layout and art work to go with Pete Peterson's copy, which concerned typical kriegie products. Of "Elegantes," a French-made cigarette that at times was the only thing we had to smoke, the *Klarion* advised "Smoke Elegantes—light up and get lit up." We encouraged kriegies to use the tooth powder occasionally obtained by the Compound canteen by saying, "Use Dr. Vierlings Zahnpulver—why take a paste in the mouth if you can take a powder."

The *Klarion* even sponsored a fifteen minute radio program once a week over station WPOW. The station was simply a public address system. Our radio staff was headed by L. G. Young and D. C. G. Schumann, and the program was a Jack Benny-Fred Allen type of show called "Random House." Ed Fuller wrote most of the continuity and his commercials boasted that the *Klarion's* six pages could be read without turning a page. W. L. Koenig contributed a commercial that went to the tune of a well known jingle:

Kriegie Klarion hits the spot
Six full pages, that's a lot
Twice as much as the Stump gives you
Kriegie Klarion's the paper for you.

The policy of the *Klarion* was simple and straightforward. The paper existed primarily for the purpose of giving the kriegies something to laugh at and enjoy, something to break the monotony of prison life. As such, it didn't go overboard for high-minded editorials, though we did print one. This was to extoll the merits of cooperation with the Germans in camp administration, and showed how such cooperation didn't help the krauts but simply made prison life less restricted.

The editorial was provoked by several incidents. One day a German sentry in a "goonbox" (elevated tower manned by a German guard) almost shot one of our fellows for allegedly sticking out his tongue at a guard and calling him names. As the kriegie had no defense against this charge he was sentenced to two weeks in solitary confinement. Another time we had to do without the services of one of our best artists, Jim Carmel, because the Germans found a watercolor printing he did, showing the "gallant Germans" defending Aachen. It pictured the Jerries in full retreat and was worth two weeks in the cooler.

As for censorship, most of it was handled directly by Col. Alkire, or Major Taylor. After the first issues, by following two simple rules, we rarely had anything suppressed. These rules were: Don't say anything that the Germans might use for propaganda; don't use anything that is obscene, just to be obscene.

For example, because the Germans might have used it for propaganda we didn't use Jensen's first illustration for a poem called "God and the P-51s" by "Moose" Moulton. The poem extolled the merits of our fighter pilots and to illustrate the verse John Jensen pictured a pilot dressed in his high altitude clothes and oxygen mask, looking forward with steely eyes, his gloved right hand gripping a cross. In the background a P-51 was silhouetted against the sun's rays as it broke through the clouds. This had propaganda possibilities because Goebbles, at that time, was screaming in cartoons and editorials that we were bombing civilians and no-military targets, while at the same time saying God was on our side.

Obscenity was the other matter that had to be watched. Since men were our only readers, some of the material handed in ranged on the border line. We knew what the fellows wanted and it was our theory that if the cartoon or poem was clever and could be termed risque, it was all right. There were some men, however, who thought that occasionally we went too far. After several stormy word battles on morals we had some of the artists put more clothes on certain characters.

The rivalry between the *Klarion* and the *Stalag Stump*, which was edited by George Gaudaen, was a healthy one, and made for better papers. Both came out regularly every week, with but one exception. That was when a photograph of a kriegie's sister was taken from the board. As a protest against the molesting of displays, both papers took a week's holiday.

Upon leaving Stalag Luft No. 3 that cold January night, the files of both the *Stump* and the *Klarion* were left behind. The *Klarion* was left under a bed, in a box which had on it a forwarding address in Russian, English and German. We couldn't possibly have taken the 32 issues with us. They would have been discarded sooner or later on the subsequent nightmarish march, which ended in vermin-infested, hungry days at Nürnberg.

On arriving in Stalag XIII D at Nürnberg in February, we found that the *Klarion* files had been taken out of the West Compound by Red McConologue, who was left behind with the hospital group. When that group departed a few days later, he left the files hidden in a garret in the hospital. McConologue told one of the kriegies, left behind because he just had an appendectomy, where the files were hid but that was the last we ever heard of them. They were probably scattered by Russian artillery. ☆

## THE FUTURE OF THE AIR FORCES

*(Continued from Page 9)*

6. Air Transport Command (provide global military air transport system plus such services as air signal communications, weather, rescue, flying safety, and aeronautical chart).
7. Air University (crystallize and disseminate latest Air Force doctrine through training programs).
8. Air Proving Ground Command (same function as above through tactical experimentation).

It is intended that steps will be taken to integrate into the Air Forces the supporting personnel, units and functions of Arms and Services with the Air Forces and that specialty designation of individuals will be by Military Occupational Specialty rather than by Corps and Service. Great care will be exercised in the accomplishment of this integration to avoid duplication of functions.

The Commanding General of the Army Air Forces will ordinarily exercise only administrative, logistical, training and tactical supervision over the air units assigned to a theater; however, under certain conditions of employment of units in the Strategic Air Command, this may well be extended to the exercise of complete command control, as was the case originally with the 20th Air Force.

**PERSONNEL:** Functions of research, procurement, production, supply, maintenance and related services call largely for trained technical specialists. In order to insure that these personnel are adequately provided for, it will be the policy to provide them comparative advancement opportunities with flying personnel.

Non-rated officers may be placed in the chain of command and will be considered eligible for assignment to command duty on any air force station, except duty involving direct control of flying units, such as air forces, wings, groups and squadrons.

Adequate plans now exist for the career development of enlisted personnel, particularly in the field of education. It is anticipated that there will be opportunities to obtain degrees from civilian educational institutions in addition to the normal opportunities for receiving training in technical skills. ☆

*"My landing gear wouldn't lower!"*

F. WILKINSON

# RENDEZVOUS

(Continued from Page 4)

**Immortal Words**

Dear Editor:

We write you regarding an article which appeared in your magazine AIR FORCE, November 1945.

We wish to set you straight regarding the accident in which a buzzard hit our C-47 while in flight.

First, the accident occurred while the plane was on "auto-pilot" at an altitude of 11,000 feet. We were enroute to Dum-Dum Airport, near Calcutta, and the only words the pilot said were, "Don't it stink?" We all agreed. The plane then returned to its squadron, the 383rd Service Group at Salua, where it was repaired. Up to a few weeks ago, we preserved the wings of the buzzard in our shack.

The crew didn't return to the States. We're still here in India, except for Sgt. Barfield who is now in Manila.

S/Sgt. F. Carrion
Sgt. H. Robeson
Salua, India

*Our story read: "What the astonished pilot said will forever be lost in the limbo of tall tales of the orient, since the crew, ferrying the plane to India, had started back to the United States before anyone at the base knew of the freak accident."*

*We are glad to know those famous words have been found and sorry to hear that the crew didn't get back to the States.—Ed.*

**Mix-up Fixed-up**

Dear Editor:

I have just been reading the interesting article in your February 1946 issue entitled 'Service Center.' While reading through I came upon the section (7) entitled Where can I get surplus Government material. Being that I expect to make use of this privilege when I am discharged I was very interested.

Now, everything was very clear right up to the last sentence. Then something happened. I suddenly found myself reading something that was almost mixed-up enough to come from a Government Bulletin.

Enclosed is the 'thing' in question. Could you please tell us what it's all about?

Pvt. Howard Edelman
Scott Field, Illinois

*Paragraph 7 of Section 7, which was hopelessly jumbled, should have read: "After you have paid for the property or completed your credit arrangements, inform the disposal agency where you want the property shipped if you cannot take possession of it on the spot."—Ed.*

**Misidentity**

Dear Editor:

Much as I like AIR FORCE, I have a dispute to settle with you. I contend that the person on the front cover of the October 1945, issue is not Capt. John C. Mays, as you state, but an old buddy of mine, Lt. G. T. Sturtevant. . . . How about it?

Lt. George J. Swingle,
Keesler Field, Miss.

*Captain Mays, a radar-navigator specialist, did not have a stand-in for the photo.—Ed.*

# TOO HOT TO HANDLE

(Continued from Page 33)

and CAB, do not try to act as a police force, they tolerate no playing around with flight rules. Rules and regulations have been pared to the bone so that it will be easier and more enjoyable to fly as a civilian, but they are rigidly enforced and when violations occur the penalties levied are often heavy.

Consider the pilot who had been flying for 20 or 25 years without a license, without certificating his airplane, without paying any attention to rules or regulations. When he was brought into court, the CAA asked maximum penalties of $11,000. Another pilot was fined $500 for giving instruction while not the holder of a valid and effective instructor rating. For authorizing an uncertified person to pilot his aircraft another paid $200. And so it goes.

But even if you don't commit violations and suffer penalties, flying is bound to be rather expensive fun. According to CAA statistics it costs $1,015 to fly a light airplane 100 hours a year under present rates. One thousand hours of operation costs $2,608. Flying 100 hours a year (based on an average of 80 miles per hour) figures 12.7 cents per mile, while the cost per mile in the thousand hour category is reduced to 3.3 cents.

As for initial costs, light plane manufacturers usually figure they can afford to sell their product for one dollar a pound. Repair is no little item. A heavy landing damaging the landing gear when it is connected to the fuselage may necessitate repairs costing about one-half the original cost of the plane itself. A new wingtip costs approximately $200.

All of this may seem to take the fun out of flying but new improvements, mass production, lowered insurance costs, improved fuel, better design, increased utility, lower cost of maintenance and repair brighten up the future.

Remember that only a few years ago high costs took the fun out of automobile ownership. ☆

# ATOMIC PRESENT

(Continued from Page 6)

not follow that technological advancement means inevitably a reduction in the armed forces of the United States. The same advancements must be anticipated for other nations. The strength of our forces must ever be determined by the strength of existing forces which might conceivably be committed to aggressive action. Our air forces, as we know them today, will acquire weapons of increasing efficiency, but the increased efficiency of weapons is certainly not at present a sign portending the elimination of air forces. In making air power supreme the atom bomb, for example, has had the opposite effect. Nor does it logically follow that because our current aircraft are ten times as efficient as the ones of five years ago, our air forces should now be reduced to one-tenth their size of five years ago. The predictable effect on warfare of weapons of increased efficiency is the same as their effect in the past—not to reduce the forces employing them but to insure a more rapid conclusion to the conflict. The mass employment of the means of warfare for overwhelming power is a basic principle of modern war.

Our military leaders are charged with the military appreciation and application of the development of science and industry. Today the Staff and Command of the Army Air Forces believes that the fundamental necessity for the security of the United States is a nucleus air force trained in the latest techniques of aerial warfare and in a condition of war readiness at all times. AAF leaders have their plans ready for the air-force-in-being of the present. They bear a large share of the responsibility for the defense of America, and they must plan and forge the weapon. ☆

# BATAAN TO MIAMI

(Continued from Page 24)

may bring along two members of his immediate family, with transportation and all other expenses paid. Many fathers and mothers who had wondered if they would ever see their sons again are now enjoying the Florida sunshine with them. And a number of the repatriated airmen are turning the vacation trip into a honeymoon.

About 100 of these former prisoners and evadees, plus 150 relatives, are at Miami Beach at one time. Their hosts are Colonel Ralph Rhudy and the members of his 1020th Base Unit of the AAF's Personnel and Redistribution Commands, who have devised an unusually full entertainment program for their guests.

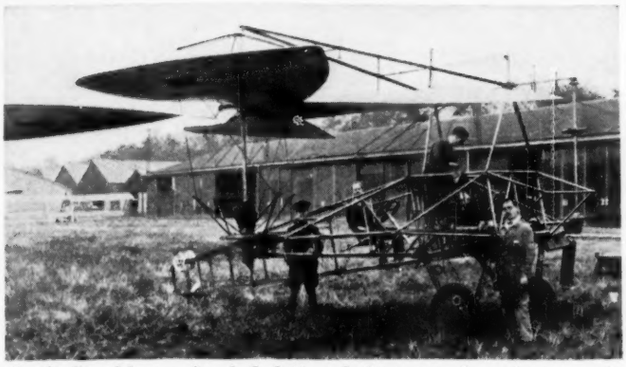
Those interested in deep-sea fishing can spend their mornings trying to land sailfish, barracuda, marlin and swordfish. In the afternoons many go swimming, either in the surf or in one of the de luxe Collins Avenue hotels where they spend their two weeks. Bicycling, sightseeing and horseback-riding are also popular afternoon activities. Twice a week a special section of the grandstand is reserved for them at Hialeah racetrack.

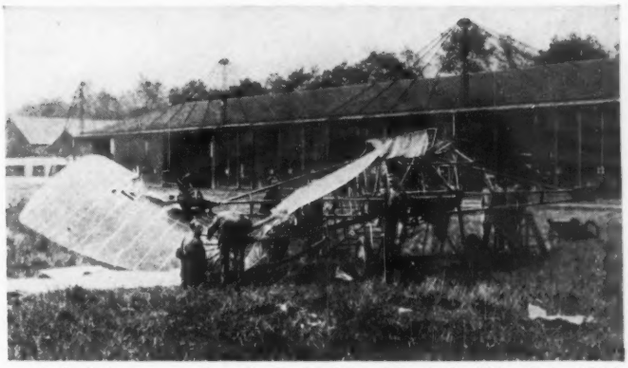
Miami theater owners have invited the visitors to be their guests whenever they want to see a show. The group frequently attends broadcasts, such as "Dr. I. Q." and "We The People," and some of its members have taken part in these programs.

Several nights a week there are parties for the men and their families at one of the hotels.

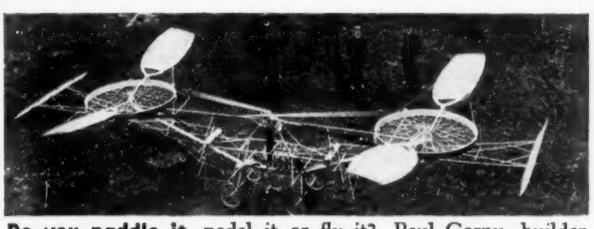
The project was started last Thanksgiving Day and is expected to continue until late spring or summer. At least 1,500 repatriated personnel will have visited Miami during this period. ☆

# *The Album* EARLY HELICOPTERS





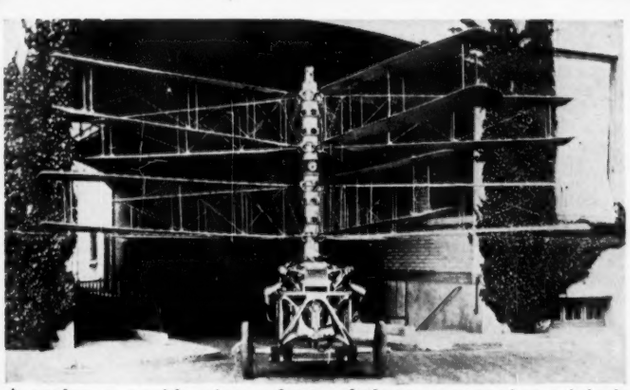
**Louis Damblanc,** air-minded French inventor, figured two engines are 'safer' than one when he built this odd windmill back in 1924. Designed so its wings could be warped to hold lateral stability, the weird crate never got off the ground and was wrecked in early trials.

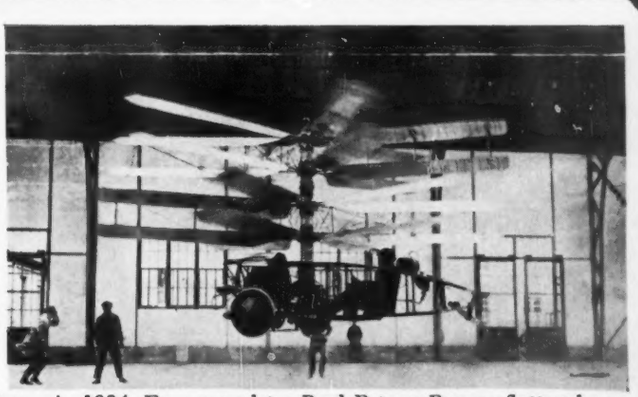


**Do you paddle it,** pedal it or fly it? Paul Cornu, builder, flew it in 1907 for 22 second periods. Neighbors admire it.

**More modern** in 1923 Henry Berliner pasted this together. Achieving dirigibility it lacked stability. Henry quit.

**Steam** was to fly this "duck" when Sir Cayley designed it in 1840. This was the first full size man-carrying helicopter.





**A racing car** with wings, plenty of them, was an Argentinian's dream in 1924. Four years later Raul Pateras Pescara fluttered upward a few feet in a French hanger where he demonstrated his flying automobile. Pescara made several flights of a few minutes duration.